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Articles

JOHN MOYLE, SURGEON, ROYAL NAVY

By

Surgeon Commander S. JENKINSON, R.N.

There is a proposal now afloat to amalgamate the Navy, Army, and Air Force into one Medical Command. If this step were taken it would merely be a regestation of the conditions of fifty years, when there was no well defined line of demarcation between the Naval and Military Services and most of the surgeons had seen service by land as well as by sea. There was nothing remarkable in a surgeon practising for one period in the Navy, and afterwards for another period in the Army—the two great military Services were then not distinct.

One of the last of the ancient sea Chirurgeons was John Moyle, who saw service in the Dutch war of 1673, and at Tangier in 1676 while in the Mediterranean. He deserves I have had the honour to be a sea Chirurgeon many

[illegible] that time was present in most of the sea fights with various [illegible]

Naval surgeons in the sixteenth and seventeenth centuries served in a hard school where improvisation was frequently necessary to cope with contingencies and where inventive minds could contribute towards the advancement of surgery

They while tending to the wounded also wrote of their experiences for the guidance of the younger surgeons Richard Wiseman Sergeant Surgeon to Charles the Second had served a long while at sea and his many naval associations led him to keep in view the needs of naval surgeons when he was writing his treatise on gun shot wounds and burns He writes ' I considered with myself that my design was to help the Sea Chirurgions who seldom trouble their cabins with many books Now besides wounds we know by our experience that burnings by Gunpowder and other materials do too frequently happen at sea and also by ill dressing of wounds gangrenes and Fistulæ arise '

John Moyle wrote of his experiences while serving on the seas and provides information for the average surgeon of those days

Moyle s Sea Chirurgions published in 1868 is dedicated to the Worshipful The Masters or Governors of Chirurgions Hall London He describes not that I think better of my self than of other Sea Chirurgions but because I see a necessity for it and that others have not done it and I have more leisure being acquitted of the Marine employ and live ashore on Her Majesty s assigned allowance

In a later edition Moyle s preface is addressed to the Most ingenious sons of Art Junior Doctors Chirurgions of England '

Many years I have practised in this noble Chirurgic Art especially at sea in the Royal Navy of England and consequently have acquired that experience that you who are younger have not as yet had the opportunity to attain unto, I thought myself obliged (being now provided for other ways) to impart unto you my practise and method in curing to the end that by it you may arrive to be able Practists in this affair and that the sick and wounded may receive benefit by it It was the saying of a learned man NON SOLUM NATUS NOBIS SUMUS etc we are born not for ourselves alone so now I have done what good I can at sea I am in this work to do more for the good of Her Majesty s subjects and in so doing I still serve Her Majesty It contains the general practise of most Chirurgions but it hath been my own practise and I wish it may be yours for it is not founded upon frothy notions but it is the product of real experiences These characters give I also to the book which is the fourth edition published at Westminster and dated 10th April 1702

Moyle s writings are eminently practical Dealing with the medical aspect of life on board he continues And while on board see that your dressing box is furnished a box with partitions in it and a place for plasters ready spread In the partitions you put your pots and glasses of Balsams and oils for gums at use Now this box as well as your pocket instruments must be [illegible] running in the mast between decks where our Mortar is usually

hung that such is have any sore or ulcer [illegible] the ship and come hither to be dressed But such as la[illegible] Either you must go to them where they lye

The second part of his book deals with su[illegible] ization for war and action stations He describes Sheweth the S[illegible] ons how to prepare for a sea fight I will imagine you are now at [illegible] in of war and in sight of the enemy and all men are clearing their [illegible] quarters and fitting themselves for the fight at what time as you [illegible] Chirurgeons of the ship you must prepare as followeth

First see that your Allop or Platform be laid as even as possible with a seal spread smooth upon it which you must speak to the Commander to order

In Merchant men the Chirurgion s place is usually in the Cable Teer between decks but in Men of war tis in the Hold abaft of the Mast between that and the bulkhead of the Cockpit from side to side In this place you must have two chests to set your wounded men on to dress them And at the corner of the platform you are to place two vessels one with water to wash hands in between each operation and to wet your dismembering bladders in and for other services and the other to throw amputated limbs into till you have opportunity to heave them overboard You must likewise place good store of liquids about the platform in lanthorns but two of the largest (without lanterns) in the place where you are to operate You must leave in readiness your instruments both large and small and your first intentions must now be there ready with your astringent powders Rowlers Lumen Cross Bolsters Tow Aurelium ova broad tape to make ligatures and narrow to bind on splinters (fit apparel for fractures must not now be missing) also Basins to mix your restrictives in pipnikins to warm your eyls in and to dissolve your Cerots (which can be done over your large candles) Have likewise your cordial bottle ready at hand to relieve men when they faint and your surgery chest must not be far from you lest you have occasion for anything therein—as the Traumatiks or other Vulnaries And now being thus accommodated you are in a competent readiness for wounded men when they shall be brought down

Moyle then discourses on amputations and says It will redound more to your credit to save (a limb) on than to take it off Its true indeed that he is a good surgeon who can take off a limb dexterously but he is a better that can save it on and heal it To save life it is necessary to stop the efflux of blood and to amputate the limb for if that it be left on it will Gangreen and death will insue in a little time It should be remembered in view of this teaching that the arteries were not tied either at the cut end or in their continuity but that bleeding was stopped by the application of a tight ligature before amputation and by the use of buttons of tow or lint soaked in a styptic after the limb had been removed Indeed Moyle expressly states that The Ancients used to tie the greater vessels with double silk or thread when they had first taken hold of them with their Crowbill or other forceps thereby to stop the haemorhage of blood but this is not used now except upon extraordinary occasions Others to restrain the bleeding used to seal the mouths of the great veins with a red hot cauterising iron but it is a dreadful operation to the patient and often brings great fears and horror upon him if not a fever

Moyle [illegible] by Wiseman who discourses on amputations as follows

Consider well the number and if you have no probable hope of salvation cut it off quickly, while the soldier is heated and in mettle But if there be hopes [illegible] delay to night and methodical healing of such wounds it being more for your credit to save one member than to cut off many

Moreover he adds Among the Cruisers in private frigats from Dunkirk it was complained that their Chirurgions were too active in amputating those fractured members as in truth there are such silly Brothers who will brag of the many they have dismembered and think that way to be themselves into credit But they that truly understand Amputation and their Trade will know how villanious a thing it is to glory in such work

In heat of fight he writes whether it be at sea or land the Chirurgion ought to consider at the first dressing what possibility there is of preserving the wounded member and accordingly, if there be no hopes of saving it to make his amputation at that instant while the patient is free of fever (Edit 1676 Book VI Ch II p 451)

Here it may perhaps be said that Moyle laid the foundation keel for the modern Organisation for War and Action Stations for the surgeon in that he chose the site for his station on board and fitted it with water supply illumination primary and secondary lighting reception for casualties and medical comforts

Moyle continues In the last Holland wars we surgeons had a Royal Styptic Water allowed us by his Majesty and it was sent down to us aboard the Navy to each surgeon according to his complement of men with directions how to use it And indeed I found it very good in divers cases as in wounds of the head and other dangerous hurts for when I have applied it and it hath remained on two days and I have opened these wounds again I have found perfect and laudable digestion when—as I did not yet expect it But in cases of amputations it was not found so proper because the pledgets and compresses were to be wet in it and to be with the hand held fast to the end of the stump till the blood should stop the which in heat of fight we cannot spare time to do but must be so speedy in our operations as possible

The Royal Styptic Water was advantageous when utilized for one casualty Moyle then describes that In time of a fight at sea a man shattered and had his arm carried off by a bullet from the enemy The bone was shattered all to pieces and was so near the shoulder joint that there was no room for amputation with the saw to make a smooth end of the stump There was some quassate loose vessels at the end of the bone which I took out immediately with forceps others there were but not so loose as to be now extracted Some of the ends of the nerves were hanging out as also some lacerated flesh and skin which were new cut off as even as possible But new the most important intension was sanguinis sistendo (for the blood flowed impetuously) from the Axillaris Vasulus

Now I durst not apply the actual cautery that part being so near the heart for that the fire would soon cause that intolerable fever to communicate the grief of this to all the principal parts and so bring on immediate fever and

Convulsions (if not prevented in time). Nor there I [illegible] and he nearly as bad and the common astringents [illegible] I took bottles of Stupa sicca expressed out of the Royal Stupe. Wet and armed them with the mixture these I applied to the extremities of the bleeding vessels and a stupe of dry tow on the end of the bone and then other stupes expressed out of the Royal Stupe on these and over this made as good a Poultering and Bandage as the part would permit. Now together with these means there was good pressure with the hands for with out that (in these great hemorrhages) it will be hard to stop by the best astringents. The dressing was let abide for three days and then was diligently removed it looked fresh and the man eventually recovered.

Moyle's second volume published 1708 was entitled Chirurgic Memoirs being an account of many Extraordinary Cures which occurred in the series of the author's practice especially at Sea when employed in the Government Service. It is a record of cases in the simple and quaint professional vernacular of that epoch he says in his preface. Let not my impolite style disgust if here or there you meet with an obsolete word or uncouth expression as my rural phrase or marine idiom let your sublime generosity impute that to my less exornate dialect let your eye be upon the matter of fact which can without vanity assert to be sound practical chyrurgery.

He then says. A mariner aged about 34 years happened by a violent stroke with an iron crow (in boarding of the enemy) to receive a considerable wound on the Messoraneum with a large fracture in the skull and a lesure of the Dura Meninx. The fracture was perfectly felt with the hand through the wound. It was about two inches long and considerably wide. There was bleeding at the ears eyes nose and mouth with great astonishment and langnor sensible signs of a collision of the brain or a lesion of the meninges. The man had a cordial given him but vomited it up again. He was laid down to be dressed and venae section was immediately celebrated to prevent the blood's coagulation and induce its more free circulation which gave something of relief. His head was forthwith shaved with a capital razor when the hair had been first moistened towards the roots with Oil Olive. Then decussate section was made with an incision knife sufficiently large and the Cutis plusa Membrana carnosa and Pericranium were separated from the skull and the Mucronata of the Incisure (which had their centre in the vertex) were clipped off with proper scissors to make the better way for the operations which were to follow. There were two large segments of the bone beneath in which lacerated the Crassior Pannicle. These were instantly extracted with forceps. Then the fractured chasma appeared vastly large and sulcelrous about the Cor ma fracture.

' The Sanguinus Missio in the Cutulus had by revulsion obsisted (in some measure) the bleeding of the head and now the sanguinus blood that was lodged in the cavity of the cranium oppressing the meninges was discharged with Linteolum and with Lint on the end of a probe and then the tunicle was washed. This was well to foetallate the brain as to its ultimate sanguinous humour that might remain extravasated a linnel stupe expressed out of warm Vin Rub was applied and over this was a dossell of dry lint applied in the chasma

and pledgets [illegible] time over the denuded bone to the end that [illegible] lest from the Lahra vulnera [illegible] insinuate into the plasma [illegible] exfoliate the skull as [illegible] from the piercing air that would soon alter the bone from its colour [illegible] a lubaceous hue The patient eventually made a good recovery

Moyle continues with another example A young sailor running hastily in at the steering door and hitting his head violently against a cross beam was struck down backwards and received injuries (a severe bruise) in the sinciput near the coronal suture but no wound or sensible signs of a fracture Howbeit by the greatness of the blow and the astonishment of the man it was reasonable to suspect all was not well within I let him blood immediately for that is not to be neglected in all grand contusions whether external or internal Next his hair was moistened with oil on the epidermis and his head forthwith shaved Then were the head temples frons and neck embrocated with the mixture of Vitell Ovi acet vini and oil Rosar and the cataplasma of Hypocrates applied The former to restrain the afflux of the blood to the part and mitigate the pain and the latter to discuss the tumour and contusion by drying up the extravasated blood and serum already flowed to the part The next day I dressed it after the same manner The third day I found the contusion much disturged and the afflux appeased so it seemed as if it would soon be well

But two or three days after the man complained of an exceeding great pain in his head, this pain increasing so that he had no rest Day or Night Then he had venae section again and Enemas exhibited but all availed not His pain grew intolerable especially under the place where the blow was received insomuch that I suspected there was a fissure of the cranium and prevailed with the man to let me make an incision and see to which the man consented So I made a desicate incision and turned up the angles and razed off the Pericrane and gave it a restringent dressing at this time and put it in a compress and bound it up

Next day I tried to find a fissure if there were any but could see none and did the man's colour assuage at all but still augmented Then I concluded it was a contussio cerebri and that extravasated blood lay oppressing the brain I told the man so and that there was no way to save his life but by giving vent to it by trepanation He answered that he had better suffer than live in such misery Whereupon I made the operation with a Trepan and when the round piece of the bone was taken out there gushed out abundance of filthy sanies and by which discharge of matter the man found ease Then I applied stupes expressed out of hot wine to the part as I did each dressing after the upper tunick was ulcerated with the corrupt sanies and it smelt stinking and offensive And again the patient recovered Thus in a practical way Moyle treated his cases

The third book which is contained in the Library of Saint Bartholomew's Hospital London is delivered under the following heads and is entitled "The Experienced Surgeon"

1 Preternatural tumour
Insuper affects
3 Wounds and Contusions
4 Fractures of the Skull
5 Luxations and Sprains
6 Fractures of the limbs and other bones

By John Moyle Surgeon of Her Majesty's Ancient Sea Chirurgeons London 1703

The book was dedicated to Queen Anne for the use of all young chirurgeons and presents the results of his practical service He completes the surgical portion with this epilogue I have now completed this Specimen Chirurgicum (I thank my God) and I have communicated to you the most material things of Chirurgery But I am grown aged and as like may write no more Let me now there but add but one unevitable word as a superest and my ultime (as to this subject) See that together with your skill you discharge a good conscience towards your patient in diligently using the best means you know and withall invoke the Divine Blessing on your sedulous endeavours for (remember) the success is from God alone Then follows a collection of the most approved remedies now in use for the cure of most Distempers incident to Human Bodies by Sea or Land taken from Dr Fuller's and Dr Bates Pharmacopoeia An example prescription is addended

Cerevisia ad Rachitidem A drink for the Rickets

Take Osmund Royal (or male fern) Liquorice Sassafras of each one ounce the bark of an wood ivy of half an ounce tops of Tamarisk Hearts tongue and each 4 handfuls five hog lice or saws (wood lice) 250 the pulp of raisons 4 ounces to be put into a gallon of ale and drunk every day 'Tis an extraordinary Specifick in this Distemper

Possibly this cordial featured in the Wardroom Officers Mess in conviviality in those days Also on the Lower Deck and may be the inspiration of the sea shantie which reads

Hearts of oak are our ships
Jolly Tars are our men
We'll always be ready
Steady boys steady
We'll fight and we'll conquer
Again and again

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A PRELIMINARY SURVEY OF SKIN DISEASES IN A WARSHIP COMMISSIONING IN THE TROPICS

BY

Surgeon Lieutenant W. A. COPLAND R.N.V.R.

SUMMARY

A PRELIMINARY survey of the thermal environment between decks in an Algerine class minesweeper in the tropics showed that the average conditions approximated the levels of warmth at which according to contemporary military opinion impairment of efficiency and health may be expected to occur. Surveys of common skin diseases were carried out to test the latter hypothesis on commissioning the ship again after one month in harbour and fully after one month on patrol.

The incidence of untreated skin disease was observed to increase. Those who suffered most were those who lived in the hottest spaces.

Although the numbers surveyed were small and the duration of the observations limited, the results suggest that a definite deterioration in the dermatological health of this ship's company occurred as a direct result of exposure to a much warmer thermal environment than they had experienced previously ashore.

The number of men suffering with skin diseases provides a useful index for assessing the severity of the thermal environment in relation to its effect on a ship's company.

INTRODUCTION

His Majesty's Ship *Flying Fish*, a minesweeper of the Algerine Class, was recommissioned from reserve in Singapore on 27th May, 1949, for transfer to the Ceylonese R.N.V.R. The recommissioning was carried out by the crew of the ship's company of H.M.S. *Loch Quoich*, which was at the time undergoing a long refit. The men of H.M.S. *Loch Quoich* had been living ashore since April in the well appointed Royal Naval Barracks where they enjoyed excellent recreational facilities.

It was considered of interest to investigate variations in the incidence of skin disease amongst these men when they changed their habitat from the well ventilated barracks to a small and hot minesweeper in the tropics. A small proportion of the new crew came from a similar minesweeper in the Roseth Fleet. The environment of these men, who were also included in this survey, did not change so much as that of the men from H.M.S. *Loch Quoich* as they had been living previously on a ship in harbour.

[1] Based on a report submitted to the Royal Naval Personnel Research Committee in July, 1951.

[illegible]

Methods

[illegible]—During the period [illegible] ambitions in the [illegible] and working spaces were [illegible] sling wet and dry bulb [illegible] in accordance with the [illegible] laid down in Admiralty Fleet Order 6602/46

1 Petty Officers' mess	1 Medical [illegible] and medical officer
Port mine sweeping deck	mess
3 Starboard mine sweeping deck	2 Engineering Office
	8 Ship's company galley
4 Seamen's mess	1 Engine room
5 Stokers' mess	10 Nos. 1 and 2 boiler rooms

The port and starboard mine sweeping decks were used as mess rooms by the chief petty officers and petty officers and the ratings respectively

The port mine sweeping deck starboard mine sweeping deck regulating office and No 1 boiler room were considered to be unduly hot and the prevailing thermal conditions were surveyed more fully with the Admiralty set of instruments for the measurement of environmental warmth in accordance with the recommendations of Bedford (1946) and Admiralty Fleet Order 6602/46

Skin Disease The ship's company moved on board on 3rd June 1949 and were examined soon afterwards for signs of prickly heat (miliaria rubra) foot rot (tinea pedis) dhobi itch (tinea inguinalis) and body ringworm (tinea corporis)—the four most common skin complaints in the tropics

The departure of the ship to sea was held up by various defects and as a result a month was spent alongside the wall in the hot and sticky Naval Dockyard at Singapore before the ship departed on a cruise along the west coast of Malaya The ship's company was re examined for skin disease at the end of the month in harbour and was finally examined after four weeks' sentence on patrol On the latter occasion the men were also asked whether they usually slept on deck or between decks during the cruise At the end of this cruise the writer was relieved by another medical officer and the investigation was discontinued

Results

Thermal Environment—The thermal conditions were surveyed with the sling psychrometer on ten different occasions during the cruise in each of the selected living and working compartments with the exception of No 1 boiler room which was only visited seven times The average findings are summarized in Table I It will be observed that the gain in total heat of the air ventilating the mess decks above that of the outside air exceeded 4 British thermal units per pound of dry air in each of the mine sweeping decks which were used as messes and very much higher heat gains occurred in working compartments

The results of the more detailed investigations in the two mine sweeping decks the regulating office and the engine room are summarized in Table I When these results are reviewed in the light of the recommendation of the

Table [illegible] Measures [illegible] Performance

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	85 3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	85 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mine	85 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
S M S D *	90 0	80 4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
P M S D *	94 3	82 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Petty officers	87 4	78 3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Working Compartments														
Engine room	103 1	88·4	[illegible]	[illegible]	115 0	90 5	[illegible]	82 8	[illegible]	[illegible]	33 2	11 19	12 98
Boiler room	108 1	85·6	45 7	[illegible]	160 0	88 4	10	84 5	77 9	[illegible]	33 9	7 75	8 52
Boiler room	107 5	85 9	42 4	43·0	200 0	89 5	7	83 8	78 1	[illegible]	34 1	7 84	8 90
W T office	89 6	79 6	64·8	45 8	150 0	80 0	10	83 6	77 3	[illegible]	33 2	2 36	2 58
Reg. office	94 2	81 9	59 9	48 1	91 5	84 0	10	83·4	76 [illegible]	[illegible]	32 8	5 03	5 3
Galley	102 4	85 0	52 5	41 7	84 2	87 7	10	83 4	76 9	[illegible]	32 8	8 33	8 87

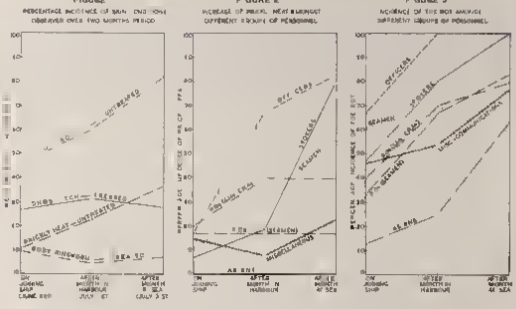
S M S D = Starboard Mine Sweeping Deck P M S D = Port Mine Sweeping Deck

Royal Naval Personnel Research Committee (1944) [illegible] is undesirable [illegible] corrected effective temperatures to exceed 80° F. in compartments which are continuously occupied, and that loss of efficiency will [illegible] to be accepted if the corrected effective temperature exceeds 86° F. It will be appreciated that these men were working under severe thermal environmental conditions [illegible] some detrimental effects on their health were to be expected. An analysis of the heat gains shows that in each of these compartments a very considerable proportion of the heat gained by the ventilating air was picked up by the air whilst it was passing through the supply trunking.

TABLE II.—HEAT GAINED BY AIR VENTILATING THE COMPARTMENTS CONSIDERED TO BE UNDULY HOT

Average heat content of the air (B.T.U./lb.)	*Port mine sweeping deck*	*Starboard mine sweeping deck*	*Port signalling office*	*Port [illegible] room*
(a) On upper deck	34·1	34·1	33·8	[illegible]
(b) At deck supply inlet	34·0	34·0	33·8	31·8
(c) At delivery to compartment	36·2	35·3	35·0	34·1
(d) At working positions	37·8	37·5	38·7	40·[illegible]
(e) At exhaust inlets	38·0	37·9	39·5	[illegible]
(f) At exhaust outlets (on deck)	34·7	34·7	35·[illegible]	[illegible]
Heat gained by air				
(1) Open air deck supply inlet (b/a)	−0·1	−0·1	0	−0·3
(2) In supply trunking (c/b)	+2·2	1·4	+3·2	[illegible]
(3) Supply inlet—working position (d/c)	+1·6	+2·2	−1·7	0
(4) In compartment (e/c)	−1·8	+2·6	2·5	Not known
(5) Outside air working position (d/a)	3·7	+3·4	−4·9	8·1
(6) Gain or loss in exhaust trunking (e/f)	−3·3	−3·2	−4·2	Not known
Sea temperature (° F.)	84	84	84	84
24 hourly range of corrected effective temperature (° F.)	80·6–85·6	82·8–85·1	84·8–88·8	87·0–90·1
24 hourly range of mean radiant temperature (° F.)	90·5–103·0	89·0–98·5	94·5–106·0	117·0–135·[illegible]

Skin Disease.—The way in which the incidence of the four observed skin diseases increased during the period is shown in Table III and fig. 1. These skin complaints were treated by standard methods whenever they were recognized and treatment was considered desirable in the interest of the patient. In practice however prickly heat was treated only with calamine lotion or with splint and water only. Foot rot was not treated unless it was severe or



treatment was requested Dhobi itch and body ringworm were effectively treated whenever they were diagnosed with 2 per cent salicylic acid in starch and water This may well explain why it was that the incidence of dhobi itch and body ringworm fell off during the period although the warmth of the environment remained hot and humid and the incidence of the conditions which were not treated increased steadily

TABLE III —NUMBERS OF CASES OF SKIN DISEASE OBSERVED AT EACH INSPECTION

Skin condition	Cases on joining ship (per cent)	Cases after month in harbour (per cent)	Cases after month at sea (per cent)	Percentage increase in harbour	Percentage increase at sea	Percentage increase after a month in harbour and a month at sea
[illegible] heat	9 (10 8)	19 (22 8)	30 (36 1)	10 1	13 2	25 3
[illegible]	38 (45 8)	50 (60 2)	68 (81 9)	14 4	21 7	36 1
[illegible]	27 (26 5)	26 (31 3)	23 (27 7)	4 8	−3 6	1·2
[illegible]	8 (9 6)	4 (4 8)	6 (7 2)	1 8	2 1	−2 4
Total [illegible] all [illegible]	77	99	127			
[illegible]						

Total strength of Ship's Company 83

The increasing incidence of prickly heat and toe rot over the period is shown in figs 2 and 3 It is seen that in descending order of frequency the recurrence of prickly heat and toe rot in the different groups of ratings at the end of the two month period was as follows

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	Stokers
[illegible]	Seamen
[illegible]	P O S [illegible]
[illegible]	P O S M[illegible]
[illegible]	Misc and Communications

The average effective temperatures of the living spaces of these men were as follows

Officers (not known)	
Stokers	80 2 F
Seamen	79 9
P O S Ms and E R A.s	78 7
P O s (seamen and Misc)	78 7
Misc and Communications	77 9

The close comparison between this list and those given above is suggestive of some relationship between the two

It is difficult to understand why officers who live under better conditions than ratings should top the list Perhaps they spend less time living in washing stripped to the waist Perhaps they live under warmer conditions

The relationships of the percentage incidence of prickly heat at the final inspection and the percentage increase in incidence of prickly heat [illegible] the average forenoon effective temperature of the living spaces during the two month period is shown in figs [illegible] and B

The worst examples of toe rot were found among the seamen who scrubbed down the decks in the mornings getting their feet thoroughly soaked [illegible] and dirty before donning plimsolls or damp sandals and not amongst the stokers who normally worked under much warmer atmospheric conditions

The effect of sleeping on deck and of occupation on the incidence of prickly heat and toe rot is shown in figs [illegible] and [illegible] It is apparent that the men who slept between decks (in their messes) suffered more from prickly heat (fig [illegible])

FIGURE 4 A

INCIDENCE OF PRICKLY HEAT AFTER TWO MONTHS IN SHIP RELATED TO EFFECTIVE TEMPERATURE OF LIVING SPACES

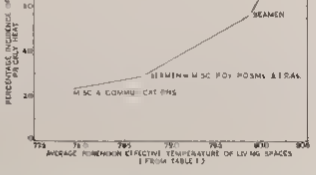
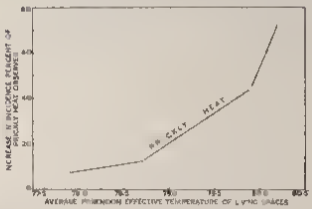


FIGURE 4 B

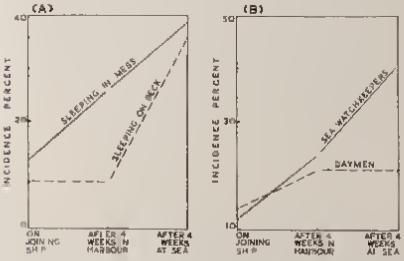
THE INCREASED INCIDENCE OF PRICKLY HEAT DURING TWO MONTHS IN RELATION TO AVERAGE EFFECTIVE TEMPERATURE OF DIFFERENT MESSES



than those who slept on deck whereas those who slept on deck suffered more from [illegible] than those who slept in their messes This is the expected finding for prickly heat and is probably due to the fact that those who suffered severely from these conditions recognized that one of the best ways to alleviate their symptoms was to get a cool night's sleep on deck Some indication of this tendency is given in fig 7a

FIGURE 5

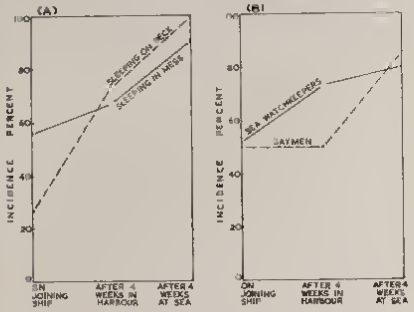
INCREASE IN INCIDENCE OF PRICKLY HEAT IN RELATION TO SLEEPING HABITS AND OCCUPATION



The sea watchkeepers suffered more on the whole from prickly heat and too [illegible] than the daymen presumably because they led a more strenuous life (figs 5B and 6B) However these figures are of very little significance as during this patrol sea watchkeeping was not continued for more than one day and one night at a time and also the numbers of daymen available for comparison were very small

FIGURE 6

INCREASE IN INCIDENCE OF TOE ROT IN RELATION TO SLEEPING HABITS AND OCCUPATION



Discussion

Investigations in the Fleet and in the climatic laboratories of the Medical Research Council in the United Kingdom and at Singapore have shown that the conditions prevailing in ships in the tropics in wartime are detrimental to the maintenance of full mental and physical efficiency (Ellis 1947, 1948; Mackworth 1950). This exploratory survey shows that similar levels of warmth in a ship cruising under peacetime conditions may prejudice the maintenance of dermatological health.

It is suggested that the prevalence amongst a ship's company of common types of skin disease which are associated with life in a hot humid atmosphere provides a useful additional yardstick for assessing the severity of undesirably warm environments in ships, which is available to every ship's medical officer.

Acknowledgments

This paper is published by permission of the Admiralty. I am indebted to Surgeon Commander F. P. Ellis, Royal Navy, for suggesting that the survey be undertaken, and for revising the text and illustrations.

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EMERGENCY ANÆSTHESIA IN THE NAVY

BY

Surgeon Commander F. W. CHIPPINDALE, R.N.

[illegible] is a transcript of a lecture delivered to the R.N.A.R. Medical [illegible] It is intended as a general guide to Medical Officers who have [illegible] of anæsthesia and not for the expert anæsthetist.

A naval medical officer may be called upon to give an anæsthetic [illegible] operation. This applies in Hospitals, Sick Quarters and other [illegible] remarks apply particularly to the administration of anæsthetics [illegible] Ship.

PREMEDICATION.

Drugs for premedication are used for two main purposes.

(a) To sedate the patient and thus allay apprehension. A well [illegible] patient requires less anæsthetic drugs and thus means that the least effect of these drugs on the patient is desired.

(b) To dry up secretions. Most anæsthetic drugs and especially ether cause an increase in the secretions of the respiratory tract and thereby increase the possibility of chest complications and post operative vomiting.

Morphine and opium is used in the days when operations were lengthy and painful and ether was the only anæsthetic. The drugs used to substitute the [illegible] and scopolamine and morphine and atropine. The best combination [illegible] have the advantage that one injection has lasting effect [illegible] scopolamine and that the scopolamine has a sedative effect [illegible] individual.

Dose and times for scopolamine effect are:

One grain scopolamine, scopolamine gr. 1/100 [illegible] half hour before operation.

Morphine gr. 1/4, atropine gr. 1/150 an hour before operation.

Both are given subcutaneously.

A matter of interest is scopolamine is not given to adults without an [illegible] and in adults over 60 years. In the latter it may cause confusion and [illegible] and sometimes a comatose state. Except in hospitals these two classes of patient are unlikely to be met with under Service conditions.

AVAILABLE ANÆSTHETICS.

Are their equipment and drugs to be issued to Sick Quarters and Ships at present under review. My following remarks apply to the equipment and drugs which will be available in the very near future.

(i) *Small Ships.*—For premedication Omnopon and scopolamine and morphia and atropine will be available pentothal for induction of anæsthesia and for minor operations and a Schimmelbusch type mask and ether drop bottle for maintenance of anæsthesia. Also provided are a spinal set comprising spinal needles, syringes and heavy and light nupercaine solutions. We have also added a Labat local anæsthetic injection set for local injections. For resuscitation purposes a Novox apparatus also the respiratory stimulant drug, nikethamide and the cardiac stimulant methedrine have been provided. We hope shortly to have a new type of oxygen resuscitator as supplied to the R.A.F.

(ii) *Large Ships and Sick Quarters.*—A portable Boyle machine is being provided in addition to the above. Nitrous oxide and oxygen combined with ether or trilene can be given. For dental work a Jectafil or a Walton type Oxygen machine is being provided these machines may be used for minor surgery, e.g. opening abscesses.

Course in the form of tuberculine is also available for those medical officers who feel competent to use it for producing muscular relaxation.

(iii) *Hospital.*—Hospitals have the Standard Fabb Boyle machines and a comprehensive selection of equipment and drugs.

PRE-HOSPITAL CONDITIONS IN THE PERSIAN.

In the industrial field surgeon in the Navy the majority of the patients are fit healthy young men but patients not with more emergent conditions may be anything but fit. There are two major conditions which may cause a patient to depart from his normal state of health in emergency surgery, that from the surgical condition itself.

(i) *Shock.*—The commonest shock is surgical tissues e.g. wounds, burns. It is also met with in acute abdominal conditions as perforated peptic ulcer, perforations and acute pancreatitis. The signs are well known, pallor, sweating, cold body surface, rising pulse rate and a falling blood pressure. An morphia should not be administered until shock has been treated. Plasma or a mixture of morphia and hot sweet tea should be given in cases of mild shock. In more advanced shock a plasma drip must be administered. It is worth while to give blood, if the hemoglobin concentration which is present in shock. If plasma is not available a saline drip should be used as a temporary measure. Avoid intravenous drugs administration of morphia in order to this cases. The subcutaneous route should not be used. The peripheral blood flow is very much hampered and may be at a standstill and substances administered by subcutaneous injection are not absorbed into the main blood stream. There have been cases in which repeated injections of morphia have been given to a patient in shock because it was thought that the morphia was ineffective. But when the patient was recovering from his shock this massive dose has been absorbed and the patient has again collapsed with morphia poisoning. The intravenous route should always be used for the injection of any drugs to shock patients. This also applies to the administration of the premedication.

Patients in shock are more sensitive to pentothal than normal patients and require very much smaller doses. Pentothal should be administered very slowly and very cautiously. It will often be found that 0·2–0·3 grammes is sufficient for induction. Pentothal fell into disrepute in America for a time after Pearl Harbour because a number of casualties died during its administration. It was not until it was realized that these patients were being given normal doses whilst in a gravely shocked condition that pentothal regained its popularity.

(ii) *Hæmorrhage.*—Hæmorrhage may be obvious as in external bleeding or not so obvious as in bleeding into internal viscera. The signs are similar to those of shock with the addition of a gasping type of respiration in gross hæmorrhage usually called air hunger. As in shock, treatment is necessary before an anæsthetic is given and although it may not be possible to control the hæmorrhage except by surgery, at least some of the lost blood can be replaced before surgery is attempted. Blood loss can only be replaced by blood and a blood drip should be set up immediately. When there has been grave hæmorrhage blood must be run in as fast as it will go. Precautions about the administration of injected drugs and pentothal are the same as those for shock.

Induction of Anæsthesia

Intravenous pentothal is invariably used for the induction of anæsthesia in almost all cases—exceptions are mentioned later. A 1 gramme ampoule of pentothal is made up to 20 c.c. with distilled water—making a 5 per cent solution. This solution is injected slowly into a vein in the antecubital fossa. After 5 c.c. has been given a pause of 30 seconds is made to watch the effects. If the patient goes to sleep a further 5 c.c. will be necessary to complete the induction. If not asleep after 5 c.c. continue the injection slowly until asleep and then give an extra 5 c.c. If a pause is made after each 5 c.c. the respiratory depression is less marked. In the ordinary emergency case it will rarely be necessary to give the whole 20 c.c. As mentioned earlier great care must be taken in the administration of pentothal to patients suffering from shock and hæmorrhage.

Maintenance of Anæsthesia

Once the patient has been induced with pentothal the anæsthetic may be maintained by three methods:

(i) Small intermittent doses of pentothal—2–3 c.c. at a time as necessary.

(ii) By means of an open mask and ether from a drop bottle. Several layers of lint or gauze tissue with a hole cut in the middle for the nose and mouth are interposed between the face and the mask.

(iii) Nitrous oxide, oxygen and ether from a Boyle machine is the ideal method of maintenance.

An airway should be inserted into the patient's mouth shortly after maintenance has commenced and when the jaw is relaxed. It is dangerous to insert an airway immediately after induction with pentothal—this is a very common cause of laryngeal spasm.

EMERGENCIES DURING ANÆSTHESIA

(i) Vomiting may occur during the induction of anæsthesia and during the [illegible] of anæsthesia becomes too light The table should be [illegible] the Trendelenburg position and if possible the patient should be turned on his side to prevent the inhalation of vomit The mouth and pharynx should be swabbed out and if a sucker is available suction should be applied to these regions Vomiting in intestinal obstruction is dealt with later

(ii) Respiratory obstruction may be due to vomit blood or pus in the air passages Treatment is as for vomiting mentioned above As the patient's muscles relax the tongue especially if large and flopping may fall back and block the air passage This can be overcome by pulling the jaw forward with the fingers behind the angles of the jaw and inserting an airway Probably the commonest cause of respiratory obstruction is laryngeal spasm Laryngeal spasm may be due to the insertion of an airway too soon after induction with pentothal too strong a concentration of anæsthetic vapour e g ether the presence of fluid in the pharynx e g vomit blood pus excess saliva and also for no apparent reason It is a common cause of death under pentothal anæsthesia The patient develops a crowing type of respiration and as the spasm increases respiration becomes more forced and eventually ceases The patient becomes blue and eventually black in colour from anoxia Treatment consists of inserting an airway—it will probably be necessary to force the mouth open with a gag as the masseters are also in spasm—and giving oxygen under pressure The larynx always relaxes a minute or so before cessation of the heart beat and if oxygen under pressure enters the lungs at that moment recovery takes place The essentials of treatment are a clear airway and oxygen under pressure

Curare is almost a specific for the treatment of laryngeal spasm 10 mg of tubarine intravenously whilst the above treatment is being carried out relaxes the laryngeal muscles immediately

(iii) Cessation of respiration may be an end effect of respiratory obstruction and the treatment is as just outlined It also occurs if pentothal is given too quickly or in too large a dose If due to pentothal—insert an airway (spasm will not occur as the laryngeal reflexes are inactive) If no anæsthetic machine is available carry out artificial respiration until normal respiratory movements return If a machine is available apply the facepiece close the expiratory valve turn on the oxygen and apply rhythmic compression of the re breathing bag until respiratory movements return 5 c c of nikethamide should be given intravenously to stimulate the respiratory centre Respiration may cease during the course of an anæsthetic due to an overdose of the anæsthetic agent—in this case ether or trilene Withdraw the anæsthetic and carry out the treatment for pentothal overdosage

(iv) Cessation of the heartbeat may occur if respiratory failure is not treated or is inadequately treated It may also occur suddenly during the course of an anæsthetic from vagal inhibition or ventricular fibrillation Treatment is as follows

[illegible]

[illegible]

Common Emergency Operations

(1) The commonest emergency is probably for acute appendicitis. A straightforward partial induction followed by open ether or nitrous oxide oxygen and ether is all that is necessary.

[illegible]

[illegible] Pass [illegible] Immediately [illegible] through the [illegible] difficult owing to the constant [illegible] the stomach. Induce the patient with the table in the [illegible] position [illegible] that no regurgitation up the oesophagus past the tube [illegible] into the larynx. Aspirate frequently during the course of the anæsthesia and keep the table in the Trendelenburg position. Induce slowly and carefully with pentothal.

(iv) Multiple injuries. It is essential to treat these cases for shock before anæsthetizing. Care should be taken over the administration of drugs by injection as previously noted. Ether is usually the anæsthetic, maintenance by inhalation oxide, oxygen and trilene should be the choice.

(v) Coma due to head injuries. Premedication should be by atropine gram 1/100 only—morphia will dangerously depress the respiratory centre. For similar reasons pentothal must not be used for induction and in any case it will be unnecessary if coma is present. Care should be taken over the airway and mixture must be avoided. Open ether or nitrous oxide oxygen and trilene are suitable agents—using at least 30 per cent. oxygen.

(vi) Ludwig's angina and pharyngeal abscess. Pentothal must be avoided. Induce with open ether or nitrous oxide oxygen and ether—using a high proportion of oxygen. Anæsthetize with the table in the Trendelenburg position. Premedication should be with atropine only.

(vii) Injuries to the lower jaw and mouth. These may be very difficult to anæsthetize owing to the respiratory obstruction. It is usually very difficult to keep a clear airway. A sucker must be used frequently to clear the mouth and pharynx of blood and debris. Again avoid pentothal and anæsthetize in the Trendelenburg position.

Post Anæsthetic Complications

The most common is vomiting. This will usually clear up without treatment. If severe the stomach should be washed out with Sodium Bicarbonate solution 1 drachm to the pint. Chest complications such as bronchitis and pneumonia clear up rapidly with antimone treatment.

Adjuvant Drugs

Curare in the form of tubarine (1·4 mg. in 2·4 c.c. ampoules) is supplied. It is not advisable to administer it unless the medical officer is familiar with its use. The usual dose is 1·4 mg. intravenously. When used a very light plane of ether anæsthesia only is necessary. The antidote to curare is prostig.

mine and it is given with atropine—the latter to counteract the parasympathetic effects such as bradycardia and intestinal colic. Atropine gr. 1/75 to 1/50 is given with prostigmine 1.5 mg. to 2.5 mg.

SUMMARY

As long as reasonable care is taken in the administration of emergency anæsthetics and as long as complications such as vomiting, respiratory obstruction, respiratory failure and cardiac failure are recognized early enough in anæsthetic fatalities should not occur and post-anæsthetic morbidity should be slight.

Anæsthetists nowadays are using a technique which, when it becomes established, may well turn out to be the ideal for the occasional anæsthetist and make the administration of emergency anæsthetics much simpler and safer. This technique consists of the induction of the patient with pentothal and the maintenance of anæsthesia with 30 per cent. oxygen, nitrous oxide and intermittent intravenous doses of pethidine. The nitrous oxide keeps the patient asleep and the pethidine provides analgesia. Relaxation of abdominal muscles is obtained with tubarine.

1,000 SCHICK TESTS IN YOUNG SEAMEN TRAINEES

BY

Surgeon Commander P. K. FRASER, R.N.

It is generally held that diphtheria is a disease of childhood with a few adults at special risk: nurses, fever orderlies and family contacts. This immunity in the older age groups was formerly attributed to a subclinical infection from a silent carrier and more recently to mass immunization in childhood.

Proof of an immune level of circulating antitoxin is afforded by the Schick test, one of the largest investigations by this method being that of Park and Zingher with the figures of Schick, Gruer and Kassowitz (Schick, 1949). In over 100,000 cases they showed a Schick negative rate of 81 per cent. at birth falling to 9 per cent. at 12 months and rising to 86 per cent. at age 17 and over.

The protective level of antitoxin denoted by a negative test varies according to published results (Cameron, 1941; Fraser and Brandon, 1936; Barr and Parish, 1940) but it can be assumed that 0.02 unit of antitoxin per c.c. of blood demonstrates previous contact with diphtheria, overt or silent, or preventive immunization. Thus bacterial implants will encounter solid immunity or so raise the level of circulating antitoxin that no clinical development or at the most a mild attack occurs.

The importance of this second antigenic stimulus was stressed as long ago as 1923 by Dudley in a closed community at high risk (1923). As he pointed out

the initial [illegible] whether in [illegible] resident infection [illegible] altered [illegible] that a second much smaller exposure rapidly evoked antitoxin [illegible] This is still of interest in view of recent work on antibody production [illegible] In the case of the Rh factor with a previous sensitization and a [illegible] titre an intravenous injection of appropriate blood as small as [illegible] be sufficient to stimulate a high titre response (Mollison *et al* [illegible] 1948)

The present position regarding diphtheria has been summed up [illegible] Hartley Report (1950) on an outbreak of virulent gravis diphtheria [illegible] areas of Great Britain This showed that previous immunization [illegible] subsequent Schick reversal and no demonstrable circulating antitoxin [illegible] altered conditions that a subsequent bacterial implant provoked a prompt [illegible] powerful antibody response In some cases the very small stimulus from the amount of toxin in the Schick test is sufficient to induce a Schick negative state in a previously positive reactor Barr and Parish (1950) in a series of previously immunized volunteers found a significant rise in circulating antibodies after Schick testing This rise however may not be demonstrated by the comparatively coarse yardstick of the intradermal test

In recent years small epidemics in adults have been reported chiefly with the gravis strain and previous reports as to the minimal rate in the older age groups have been disproved Cameron (1944) in Halifax N S showed 42 per cent of 407 University students non immune and 55 per cent of 250 R C A F personnel likewise unprotected as shown by the Schick test In a hospital population of 1 283 Karelitz and Mednick (1944) found 28 6 per cent positive whilst Cheever (1948) in over 18 000 U S naval recruits showed a positive reactor rate of 34 2 per cent In the last report the positives ranged from 26 9 per cent in the 17 years old group to 43 0 per cent in those 27 and upwards In a survey of the literature in 1943 Goldsworthy and Wilson found about a 50 per cent positive rate

The worsening position in adult diphtheria has been stressed by Cohen (1947) whilst previous to this Fleming (1944) stated that at least in Canada more adult diphtheria could be expected than in the past

The following investigation was carried out in a semi closed community afloat The vast majority of the subjects were in the 17 to 26 age group and were held on board for training for an average of three months During this time they lived and worked as a class of approximately twenty but there were frequent opportunities for mass contact No clinical case of diphtheria was seen during this time

There are undoubtedly some fallacies in the figures for previous immunization Frequently particulars had to be obtained by writing to the parents and probably a few confused it with vaccination

A commercial Evans Schick toxin and control with the same batch number was used and assays conducted by the manufacturers midway and at the end of the investigation showed the material to have retained its full potency throughout

The results were read at twenty four hours and four days

TABLE I

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]		
	124 (42	[illegible]	102 (38%
[illegible]	[illegible]	[illegible]	35
[illegible]			
	377 38	[illegible]	135 23 %
[illegible]	[illegible]	[illegible]	15

[illegible] [illegible] positively and [illegible] would have been regarded [illegible] With the Hartley [illegible] in mind it is now more likely that [illegible] with an immunization list or have some degree of protection [illegible] 30 per cent unprotected and at full risk. Even this figure [illegible] minimal amount of circulating antibody would be partially protective [illegible] in shaming to the Schick test.

The [illegible] and positive reactions are of interest in view of future immunization [illegible] Such cases usually show a strong reaction with the antiseral immunization.

Table II shows the result of re-Schick testing 124 positive cases after three months.

TABLE II

Follow-up cases re-Schick tested after three months

	124	
	History of previous immunization	*No history of immunization*
	81	43
[illegible] reactions to Schick negative	12	8

There were 20 conversions (16 per cent.). With a previous history of immunization the figure was 10 per cent. and with no history 6 per cent. Apparently the toxin in the skin test was sufficient to provoke an antigenic response in some cases. Dr. J. A. Fraser Roberts has kindly cast a statistical eye on this table and says there is no significant difference between the two groups.

Table III is interesting as showing the incidence of immunization in a certain group of differing background. No standard was laid down for "rural" and the individual's estimate as to whether he was a town or country dweller

TABLE III

	Urban environment	*Rural environment*
Previous immunization		
704	493	210
No history of immunization		
97	215	82

was accepted The urban group showed a 70 per cent [illegible] and the rural group 72 per cent

CONCLUSIONS

In a series of 1 000 Schick tests the numbers of positive reactors correspond roughly with those found by Goldsworthy and Wilson in a survey of the literature of 1943 The position however is considerably better than would appear in view of the findings of the Hartley Report

Allowing for a small error in history taking 70 per cent have some degree of protection There is every likelihood of this figure being bettered in the future as diphtheria immunization in childhood becomes generally accepted

In some cases only a very small antigenic stimulus is required to produce a general antibody response

From Table III it would appear that the rural health services are as active in pushing immunization as the urban centres

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COMPARISONS OF THE NAVAL, MILITARY, R A F, AND CIVIL MEDICAL SERVICES WITH PRIVATE PRACTICE

PART XI

BY

Surgeon Captain R C MUNDAY, *G B*, M R C S, L R C P, R N (Rtd)

My time at the Air Ministry although arduous and anxious enabled me to meet and enjoy the society of men who were becoming famous and were to become renowned as Statesmen and Airmen Lord Simon then Sir J Simon came to the Air Ministry with that great man afterwards known as the Father of the R A F General later Lord Trenchard Sir J Simon had thrown up his political career to serve at the front in France on the Staff of the Independent Bomber Force which was commanded by the future Father of the R A F When the R A F was about to be formed these two men came back to London together to assist at the birth They were allotted the rooms I and my colleagues

were occupied [illegible] settling down in new quarters next to my old [illegible] I saw a good deal of Sir I Simon and at a time when the Germans seemed likely to divide the allies at Amiens and most people were very pessimistic he and his chief were always serene cheerful and sure of ultimate victory

In a short conversation I had with Lord Trenchard about the morale of the pilots under his command in France (of whom my son was amongst the more distinguished) he told me that the secret of maintaining morale in the face of heavy fatal casualties in a squadron or group was to make sure that you had a sufficiently large pool of pilots under training to keep squadrons unbroken to the full and to allow fin stale pilots to be relieved in good time

Another charming statesman Lord Hugh Cecil who had abandoned a very distinguished Parliamentary career on the outbreak of war for the R F C was the youngest son of the old Marquis of Salisbury Premier at the end of the nineteenth century Lord Hugh Cecil gained the respect and admiration of members on both sides of the House by his sincerity equally patent in politics and religion his polished oratory and lofty sentiments He also came back from France to serve at the Air Ministry as Trenchard s Secretary he held the rank of Squadron Leader and from his modest bearing people ignorant of his position in civil life would never have guessed his mental and spiritual stature I am proud to have been associated with him

I felt sure that the combination of those three men must result in great things for the R A F and the country Then there was Admiral Mark Kerr whom I had met as a Captain in the Mediterranean He was one of the first naval officers to realize the importance of aviation in naval warfare and to qualify as a pilot I shall never forget the interest he took at the Air Ministry in my uphill work in the formation and administration of the R A F Medical Service He was a tower of strength and a very present help in trouble to me until he was given command of one of the five areas of Great Britain and left the Air Council He was kind enough to try and induce me to withdraw my resignation

I found life at Eastney very pleasant after my strenuous and stormy experiences at the Air Ministry It was a relief to get back to clinical work and to live in a beautiful home with lofty rooms facing south with nothing between us and the English Channel but a road a dry moat and an embankment over which our ground floor windows had a lovely view of the sea Cricket tennis football bathing boating and gardening were all to be enjoyed inside The Barracks cottage and after a flat mile on a smooth road a bicycle ride took one to the ferry across 400 yards of water to the first class golf links of Hayling Island

Having a staff of three Surgeon Lieutenants I rarely had any duties to perform after 4 p m so for my first year I spent my unaccustomed leisure in gardening and outdoor games getting my handicap at golf down to three at Hayling Island but it seemed likely that my career in the Navy would be cut short by the inexorable grist of too many men in my zone who had earned promotion which could not be given to them because there was not a sufficient number of vacancies In my own case my kind friends on the Surgeon Admirals

Committee assessed my Services as P.M.O. of a Flag Ship under a Commander in Chief. Medical Officer in Charge, Greenwich Hospital School and College (all my predecessors here had been promoted). Assistant Director General for three years. Director General of the R.A.F. Medical Services, holder of the only two gold medals to be earned in the Naval Medical Service, and the C.B.

Others very naturally pointed to the fact that if I were selected one other good man would lose all chance of further service, whereas I had already reaped the reward of my services by the rank I had attained in the R.A.F.

I was prepared for this blow and took measures to secure an income sufficient to complete the education of my youngest children and secure my wife a freedom from financial anxiety. I contemplated a period during which I should obtain such a series of locums as would equip me with sufficient experience of private practice to set up for myself or acquire a partnership. While I was still at Eastney I spent six weeks leave on a course at Queen Charlotte's Hospital to refresh my knowledge of midwifery and in my second year at Eastney I spent nearly all my afternoons at the Portsmouth Royal Hospital where I made friends with that great surgeon Childs. From him and his staff I learnt much gynæcology, but my chief benefit was derived from the visiting anæsthetist who, during my thirst for knowledge and practical experience, invited me to administer anæsthetics while he looked on. Then by the concurrence of the operating surgeon he would leave me in sole charge of the anæsthesia. After a few months of steady work, I acquired an invaluable self confidence and experience in all sorts of emergencies which have been invaluable in my eight years' work in the Army, my post naval house physiciansship in a civil hospital and my work as a general practitioner (which has continued at intervals up to a few weeks ago (1940 Ed.)) when the physical weakness of old age overtook me.

Another step I took in preparation for work after being axed was to apply to London agents for a job as a locum tenens. I soon obtained one for three weeks. Leave for more than that period was due to me at Eastney, so I went off to a small country town not far from Hereford. As the man whose practice I was to take care of was much more interested in the breeding of prize dogs than anything else I had some difficulty in getting him to show me where the medicines in his untidy dispensary were kept, and also in persuading him to tell me about the diagnosis and treatment of my new patients, but he did tell me to visit a tubercular woman dying of pneumonia in order that there would be no difficulty in my signing the death certificate. I saw that she was *in extremis*, but I thought that there was just a chance of nursing her through the pneumonia. All I did for her was to see that she had plenty of fresh air, suitably nourishing and stimulating liquid diet, and good nursing. I visited her twice daily until the crisis and then every day until her doctor returned. She and her friends thought I was a raiser of the dead, so did her doctor.

About 3 a.m. one morning I was roused by someone groping in my room. He explained that he was a one armed G.P. who had been wrestling for hours with a lady who had a contracted pelvis. Would I put on the forceps for him?

I felt very thankful for my Queen Charlotte's course put on an overcoat and walked about 100 yards to the patient I accomplished the business satisfactorily except that the perineum was split My new colleague insisted on suturing it himself to show me what he could do with his steel arm fitted with fittings for surgical instruments He was one of the bravest men I had ever met Before his amputation he had been a Surgical Specialist and as there was a total lack of operating surgeons within 10 miles in any direction from his residence he had built an operating theatre with anæsthetic anteroom etc and was very seen in a busy surgical practice One day he opened a foul appendicular abscess and laid the knife for a moment on the patient's thigh it slipped and would have fallen to the ground but he automatically caught it with his right hand which was pierced by the knife through the glove He finished the operation and felt confident that passage of the pent through the rubber glove would cleanse it The wound became septic and by the time he could get good advice it was too late to save the arm

When I met him he was managing a very active lucrative general practice all by himself and was gradually learning to handle surgical instruments again He could carve a joint and drive a car much better than I could

I had a visit one afternoon from a charming young couple who asked me to come and see their mother's footman who was in pain I was received at a large mansion by a magnificent butler and found the patient suffering from symptoms of renal colic I prescribed short term tentative diet and medicine and said he must be taken to hospital for X ray and other investigations In this the butler demurred I asked to see the mistress of the house She was the widow of a belted Earl and a very different sort of person to her daughter and son in law She was of the opinion that my advice was unnecessary in the case of a lowly form at annual like a footman and decreed that I might be permitted to prescribe medicine and visit the patient but the rest of my advice would depend on my employer's opinion when he returned from his holiday I explained that I could not permit her to dictate the treatment or look of it and that if she could get another doctor I would give up the case to him If not I would only see the patient if he were in pain In the meantime I warned her as to coroners inquests if doctors were obstructed in their treatment The pain doctor returning from his holiday a few days afterwards was very perturbed at my encounter with the Countess and dashed off at once to see the he only to find he really to eat out of his hand He promptly asked me to stay on as his partner He said that I had in three weeks seen many more patients than he had ever dealt with The trouble with him was that he had private means and was much more interested in the breeding of dogs than medicine

One more startling incident occurred before I finished my locum I was telephoning at the house when I became aware of a gentleman standing by my side in indoor clothes I enquired if he wanted me He said No thanks and walked into a room I did not use I told the servants to ask him what he was doing in the house They said Oh that's poor Mr —— his keeper must have left him for a minute

When turning over to my friend on his return I said that of course as Mr —— had not been mentioned when I took over I assumed that I was not in any way responsible for him The reply in this was There now I forgot to tell you about him I meant to write a line but I forgot

I came away feeling that I had learnt quite a lot about private practice and could run one as well at any rate as my friend but I declined his offer of a partnership

A few days after I was finally passed over for promotion on New Year's Day 1921 and had been retired but not relieved from my Eastney job I came home to lunch from a round of golf at Hayling Island to find an urgent telegram from my London agent asking me to go at once to a town in Suffolk to take over the practice of a doctor who was down with pneumonia The only train to get me there that day was due to start from Portsmouth in three quarters of an hour I got leave from the Commandant and while I was swallowing lunch my excellent batman packed and got a taxi I just caught the train If it had not been a case of sudden illness I should have declined the job but pneumonia I felt bound to go to the rescue at once I arrived at 9 p m in an early January evening was met by an invisible lady who was asking in the pitch darkness if Dr Munday was on the train She afterwards confided in me that she was cheered to hear the accents of a gentleman

Incidentally what terrible adventures doctor's wives have to endure when left to keep an eye on the practice and have an unknown locum living with them ! Her husband was in no shape to turn over the practice and the surgery was black with patients The receptionist dispenser had gone home I got through the work somehow and then enjoyed my very late dinner I was told that the gardener would drive me on my rounds next morning His previous experience had been confined to a Rolls Royce and he had never driven a car before After getting 10 miles into the country with many threatening coughs and explosions the engine firmly died upon us I brushed the round on foot and bicycled back to the surgery in time for ten Subsequently we hired a car and a chauffeur who taught me to drive and except for difficulty in getting in and out of a tricky entrance to the garage I had no more motoring troubles Providence guided me and my patients safely through quite a number of midwifery cases that might have ended in tragedy I remember in particular a retained placenta of which I had laboriously to pick the adherent pieces off a long suffering uterus in a filthy hovel assisted by a filthy old midwife I fully expected a very septic end but an uninterrupted recovery ensued

My employer went off for a holiday as soon as he had sufficiently recovered from his pneumonia and just before he came back I got a telephone message from the West Suffolk Hospital asking me to go there as temporary House Physician as their only House Officer had suddenly gone blind (? Disseminated Sclerosis) I tried hard to get out of the job because I wanted to get home to settle my wife and family in a new house at Paignton but the Commandant said there was no need for me to come back to Eastney unless I wanted to and my wife said she and the excellent batman would manage the removal So I found myself installed in very comfortable quarters with excellent food, in

[illegible] hospital [illegible] a large number of medical and surgical wards [illegible] maternity ward which received only difficult maternity cases I was [illegible] anesthetics The pay was £200 per annum with board lodging and washing [illegible] I liked the job and my visiting colleagues on the medical and [illegible] so much that after consulting my wife and explaining the clinical [illegible] disadvantages of the job to her I asked to have my name put [illegible] for the post The committee were kind enough to [illegible] tell the other applicants that the post was now filled

[illegible] were always full because we received a large number of wounded [illegible] men included for medical reasons besides civilian male and female [illegible] cases from the whole of West Suffolk I had two experienced fully trained and orthodoxed midwives and if I felt worried at any time about a difficult delivery I could get one of the visiting staff in five or ten minutes so I had no anxiety as to my own lack of experience but I was thankful for my course at Queen Charlotte's and my work as unofficial anaesthetist at the Guy's and Royal Hospital because hardly a day passed without several operations and never a day without a minor operation calling for a general anaesthetic In slack times I could get away with one of the visiting staff for a weekend I still They were all very hospitable to me in their homes In the evenings and so were the local magnates on the Hospital Committee I think I would have remained there for at least twelve months if I had not been offered an even more attractive and flattering appointment I received a visit one morning from a barrister who said he was Chairman of one of the House of Lords Pensions Appeal Tribunals and wished to interview one of my patients who had been invalided out of the Air Force after transferring to it from the Navy I gave him a history of the case and showed him my notes giving at his request a reasoned opinion why the man's appeal for an increased pension should be granted

This barrister was struck by my intimate knowledge of conditions in both Navy and R A F and when I told him of my service in both he declared that I was just the man the Lord Chancellor wanted to help man the new Tribunals being set up to cope with the ever increasing number of appeals He said he was empowered to make a tentative offer to an experienced retired Senior Medical Officer of the Navy or Army of an appointment at first as a member and in due course a Chairman of a Tribunal The probable duration five years the salary £800 per annum It seemed too good to be true besides I was very happy where I was My colleagues the visiting Staff very kindly said I must not let them stand in the way of my getting such a good job they would take it in turns to hold the fort until my successor was appointed In a few days I did indeed receive a summons to interview the Lord Chancellor's representative the President of the Tribunals He said he had obtained my record from the Services did not want to see any reference or testimonials but did want me to join the Tribunals at once I explained that I could not leave the hospital without adequate notice to enable the Committee to get a successor He demurred but eventually gave me three weeks

(To be continued)

Clinical Notes and Cases

TRAUMATIC RUPTURE OF THE TESTICLE

BY

Surgeon Commander A. LONG, R.N.

When one considers the anatomical relations of the testes, their suspension and freedom of movement within the scrotum, it is surprising that they should ever be seriously traumatized. Minor injuries are common, especially in the field of sport, but serious damage is a rarity.

The following case illustrates one of these rarities, the mechanics of the injury remaining pure conjecture, however.

Case History.—A Naval Petty Officer, aged 32, was admitted to a Rural Naval Hospital in September, 1951, and gave a history of having been thrown from his motor cycle half an hour previously, when he skidded badly on a patch of oil.

He stated that he felt hurt immediately after the accident and vomited several times, and his chief complaint, apart from multiple contusions and abrasions of the lower limbs, was pain and swelling of the right scrotum.

On examination he was found to be slightly shocked. The right scrotum was grossly enlarged, tense, and swollen, although no superficial injury was apparent, and it was not possible to palpate the scrotal contents.

He received treatment initially for minor injuries to the lower limbs, and was later transferred to a general urinary ward, where the condition was diagnosed as a large haematocele, and arrangements made to evacuate the blood, but steps to prevent subsequent possible atrophy of the testis.

Operation was performed on 19th September, 1951, when the right tunica vaginalis was seen to be distended with blood clot. When this was opened, considerable quantities of fragmented testicular tissue were evacuated, together with a large amount of blood clot.

The right testis consisted of an empty shell of tunica albuginea, which was opened by a long vertical wound. Orchidectomy was performed, and the scrotum closed with drainage.

Summary

Lawrain & McCrea, writing in the *Journal of Urology*, describe a case of traumatic rupture of the testicle, making the thirteenth case reported in the literature. His review and analysis of the 13 cases shows the typical pain of varying degrees and swelling of the scrotum due to a haematocele, but severe shock was not shown to be a usual symptom of rupture of the testicle.

The usual pre-operation diagnosis made was that of an haematocele.

Reference

McCrea, E. L. (1951) *J. Urol.*, 66, 17.

A CASE OF DESMOID FIBROMA OF ABDOMINAL WALL IN A CHINESE NAVAL RATING

BY

Surgeon Commander P. O'BRIEN, R.N.

[illegible] A Chinese Naval rating, aged 25, was admitted to R.N. Hospital on [illegible] 1951, complaining of a hard swelling in the right lower quadrant of the abdomen. The swelling had been present for three years.

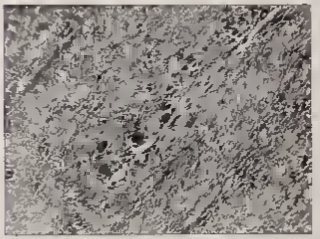
[illegible] 1948 he had an operation performed for renal [illegible] in a civilian hospital in Hong Kong. About one month after that [illegible] a small lump appeared at the centre of the scar and since that time it has [illegible].

[illegible] little trouble and he remained at work up to the time [illegible]. His appetite has been good but he is [illegible]. As the lump gets bigger, his health [illegible]. His bowels have been normal and there has been no urinary disturbance. [illegible] that this tumour was a rapidly growing fibroma after his [illegible].

[illegible] a thin little rating, of sparse build and is not tall. There [illegible] prominent left pectoral muscle and the abdomen is with original [illegible]. He has his separate [illegible] which [illegible] surface.

[illegible] that the left [illegible] and that the left [illegible] prominent [illegible] shown and [illegible] be felt to extend to the [illegible] the psoas sheath [illegible] and [illegible] of all of these structures [illegible] original operation scar [illegible].

[illegible] examination N.A.D.



[illegible] that this tumour was a [illegible] the psoas sheath.

[illegible] details and [illegible] of previous [illegible].

[illegible]

[illegible]

[illegible]

[illegible] white tissue.

[illegible] abundant collagen fibrils [illegible] There are a few cells [illegible] small and uniform stained [illegible]

D[illegible] Hunt or part of [illegible] not mean that [illegible] normal [illegible]

On the 26th March 1951 an [illegible] was performed [illegible] Technique. Original [illegible] skin [illegible] aponeurosis [illegible] scar site [illegible] the edge of the [illegible] was obvious that [illegible] the right half of right [illegible] of the internal oblique [illegible] revealed peritoneal [illegible] that the full extent and size [illegible] coconut and [illegible] the conjoint [illegible] the lower right [illegible]

The inferior epigastric [illegible] seen to enter [illegible] very much the [illegible] After [illegible] was removed complete [illegible] the area of peritoneum [illegible] attached to its inner surface

The appendix was rigidly [illegible] The peritoneum was [illegible] as much as possible [illegible] fascia. A rubber glove [illegible] as a good part of external [illegible] muscle and sheath [illegible]

Two pints of [illegible] was applied and the drain [illegible]

[illegible]

[illegible]

[illegible] number [illegible] shows [illegible] form [illegible] tissue [illegible]

[illegible] Blood [illegible] been made from [illegible] parts of the [illegible] All [illegible] a similar histological picture except those taken from [illegible] which [illegible] invasion to the muscle which is not [illegible] of this kind of tumour. The tumour tissue is mainly [illegible] arranged in conspicuous bundles. There [illegible] in some places they are fairly abundant at [illegible] here and there but not at all extensive [illegible] show [illegible] of malignancy. Section (2) shows tumour tissues [illegible] muscle.

Diagnosis—Desmoid fibroma

The photographs show a sound wound and a normal right rectus m five months after operation

This case of unusual interest in a male is recorded (80 per cent occ parous women)

I am indebted to Surgeon Captain J G Maguire R N for permission t publish this case and to Professor How Pao Chung of Hong Kong University for the pathological reports and photomicrographs of the sections

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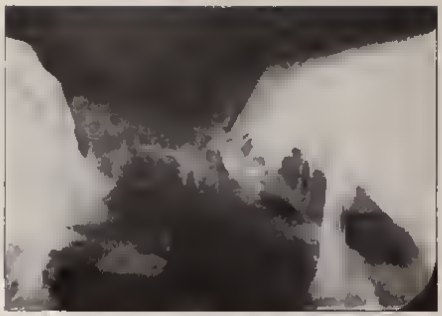
A CASE OF KLIPPEL-FEIL SYNDROME IN A CHINESE NAVAL RATING

BY

Surgeon Commander P. O BRIEN R N

Case History—This Chinese naval rating was admitted to Surgical Out-patients Department on the 17th August 1951 because he could not extend his neck when going routine chest X ray for re engagement He stated that his neck was and that he always had to turn his shoulders when condition never bothered him



[illegible] form a [illegible] probable [illegible]

[illegible] restor[illegible] filling is contoured

I am indebted to Surgeon Captain [illegible] G. Maguire, R.N., for permission to publish this case and to Surgeon Commander B. M. Goldsworthy, R.N., for the X-rays.

A LARGE DENTIGEROUS CYST

BY

Surgeon Lieutenant-Commander (D) E. B. C. CLIFF, R.N.

A [illegible] naval rating, aged 16, presented for treatment on 9th June, 1951, with a [illegible] and pain in |6/8 region. An intra-oral X-ray film was taken and diagnosis of [illegible] impacted $\overline{|8}$ made. An attempt at the extraction of this tooth caused it [illegible] into a cavity.

[illegible] was much subsequent swelling and pain, which was treated with penicillin therapy. [illegible] 7th June, 1951, when the inflammatory condition had subsided, extra-oral [illegible] at the condition diagnosed as a dentigerous cyst involving $\overline{|6}$ (distal [illegible] 8 (Fig. 1).

[illegible] 26th June, 1951, under regional anæsthesia, $\overline{|8}$ was removed with difficulty since [illegible] with the inferior dental nerve and vessels. $\overline{|7}$ was then extracted.

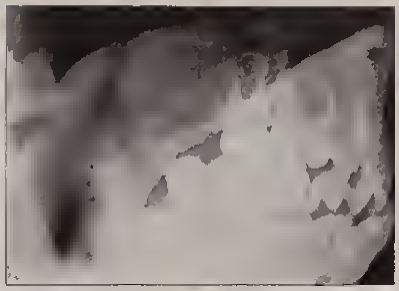


Fig. 1

Fig. 2

No detachable [illegible] could be demonstrated and [illegible]

After packing the cavity with [illegible] gauze [illegible] was uninjured.

Extracted X-ray [illegible] taken on 8th September [illegible] operation demonstrated that the [illegible] area has disappeared [illegible] note that although [illegible] from this vital [illegible]

This case makes a strong point for routine [illegible] of uncrupted teeth.

I am indebted to Surgeon Commander (D) G. Baker R.N. [illegible] to publish this case.

ROYAL NAVAL MEDICAL SCHOOL ALVERSTOKE

The following lectures were given during the Medical Course 1951

[illegible] September 1951 — The Civilian Hospital and Its Use in Atomic Warfare — Dr. A. T. Martin, M.D., D.P.H., Ministry of Health

[illegible] November 1951 — Nutrition Outside and Dietetic Aspects in Dental Surgery — Surgeon Lieutenant Commander (D) J. B. [illegible], D.D.S., R.N.

[illegible] 1951 — Some medical problems of Air Travel — Dr. J. [illegible] Babb of B.O.A.C. and R.A.F. Institute of Medicine

[illegible] 1951 — The Law of the Land v. the Laws of Medicine — Surgeon Commander J. S. [illegible], D.S.C., Barrister at Law, Royal Navy

[illegible] Medical Officers of the R.N.V.R. was held from 10th [illegible] 22nd [illegible] 1951

[illegible] Medical Aspects of Atomic Warfare. In Medical, Dental and Nursing [illegible] Naval, Military, R.A.F. and Civilian [illegible] to be held. Since these courses [illegible] 1948 a total of approximately 2,500 [illegible] attended.

[illegible] attendances is not to all attending, the [illegible] Medical Aspects of [illegible] Warfare [illegible] replaced by a handbook "Notes on Atomic Energy for [illegible]". Anyone who has attended a course and has not had a copy of the [illegible] may get one on application to the School.

[illegible] Medical, Nursing, and Welfare Officers [illegible] that the visiting [illegible] of the R.N. Sick Berth Staff [illegible] is under way and it should be [illegible] 1951.

[illegible] photographs of the school used in the 1951 Christmas cards was [illegible] Lt. Cdr. the Nursing Mirror.

[illegible] in Charge thanks all those who have responded so far to the [illegible] and other British humanitarian and Nursing, should [illegible] Some 30 [illegible] in the Reading Room.

Reviews

[illegible] British Medical Association 1951. [illegible] 249. [illegible]

[illegible] "Any Questions?" [illegible] reply to hand [illegible] pressing [illegible] the thirst for knowledge. [illegible] quenched [illegible] Any [illegible] paragraphs published [illegible] 349 [illegible] the table [illegible] is that [illegible] rapidly [illegible] professional [illegible] no doubt [illegible]

MEDICAL [illegible]
M R C [illegible] charge of the [illegible] Royal [illegible] the Rh [illegible] Consulting [illegible] Medalist [illegible] Member of the University [illegible] Consulting [illegible] the East Indies [illegible] Medalist [illegible] Member of the Scientific [illegible] Committee [illegible] London 1951
Pp 884 illustrations 377 [illegible] price 80s 0d

This admirably produced excellently illustrated book contains in its 840 pages of text practically [illegible] the present time of this subject Some chapters have been [illegible] specialists in particular subjects but the last [illegible] from the author's own experience [illegible]

Many references at the end [illegible] of work that is still living [illegible] on any particular subject [illegible]

The first 110 pages are [illegible] applied anatomy and physiology [illegible] excellent chapters on the predisposing [illegible] assessment of the relative importance [illegible]

The author then deals [illegible] Coburn's massive dosage of salicylates [illegible] hippuramide prophylaxis against this disease [illegible]

Five chapters are next devoted [illegible] including its relationship to rheumatic fever [illegible] involves something [illegible] in much detail and there is also [illegible] appendix later is devoted to the use and [illegible] arthritis and its aetiology [illegible] throughout [illegible] by Doctor Copeman who has been [illegible] infection in its aetiology Ankylosing spondylitis [illegible] are all adequately handled and [illegible] cervical radicular neuralgia

At the end of the book [illegible] the practical aspects of investigation and treatment [illegible] under sedimentation rate [illegible] page 805 [illegible] Author and Subject Index completes the volume

The whole book is very well produced [illegible] indispensable both to the Specialist in this subject and [illegible] disease and disabling diseases

CARDIOLOGY [illegible] Diagnosis and Control By Mary C Pangborn [illegible] Medical [illegible] T Boucher M D W B Saunders [illegible] 1951 Pp 63 World Health Organization [illegible] 5s 0d

This short monograph [illegible] the past few years on the preparation and standardization [illegible] for use in both complement fixation and precipitation [illegible] tests widespread use and so offer [illegible] for syphilis and other treponematoses [illegible] of the New York State Department [illegible] World Health Organization

The authors [illegible] since the serological properties [illegible] purities not readily detected [illegible] serological as well as chemical [illegible]

[illegible] ntrol [illegible]

[illegible]

[illegible] M.S. [illegible] Gou[illegible]

[illegible] The [illegible] gard[illegible]

Dis[illegible]

[illegible] introd[illegible] in the fir[illegible] to the interp[illegible]

The last [illegible]

The stri[illegible] paper [illegible] ment [illegible]

SOME COMPL[illegible]MATIC M[illegible] M.A. M.D. [illegible] M.R.C.P. Diagnostic Physician [illegible] Clinic [illegible] Hospital London. Second Edition. 1951. Pp. 285. [illegible] Cambridge: Oxford University Press. Price 17s. 6d.

This is an excellent and well written book in a subj[illegible] increasingly in the forefront and which reminds us that [illegible] spirit of [illegible] to ultra specialization medicine must consider and treat the par[illegible] in which body and mind play integral parts.

These difficult and controversial subjects [illegible] Miners' Nystagmus are dealt with very fully and include [illegible] their conception and the various theories as to their cause. Other chapters [illegible] The Eye Signs of Fear and Their Relation to Thyrotoxicosis [illegible] Manifestations in the Skin. Psychogenic Rheumatism. The Low Back Syndrome. Allied States and Psychosomatic Manifestations in the Alimentary Tract. The signs and symptoms of these various conditions are compared in tabulated [illegible] and symptoms of accepted psychiatric states and a close study [illegible]

[illegible] as the [illegible] most aspect [illegible] the condition [illegible] of his [illegible] to the [illegible] functions [illegible] conditions [illegible] and the [illegible]

This book [illegible] point of view [illegible] study [illegible]

ATLAS OF [illegible] A [illegible] Edited by [illegible] Series [illegible] Price [illegible]

Strictly speaking [illegible] picture of the disease [illegible] the part which [illegible] yaws as the health [illegible] printed condition

The iconographic [illegible] diagnosis or treatment [illegible] and a number of illustrations [illegible]

BENTLEY AND DRIVER'S TEXTBOOK OF PHARMACOLOGY [illegible] Edmund Driver M A Cantab Ph D M Sc [illegible] to the University of Hong Kong [illegible] Fifth Edition [illegible] chart and 50 figures London Geoffrey [illegible] Price 42 6d

This book first produced in 1925 is now published [illegible] considerable extension of the scope covered in the past [illegible] 1948 British Pharmacopoeia it also includes [illegible] chemicals which have gained favour since the [illegible]

Produced in meet the needs of Pharmaceutical Students [illegible] in their library and in its present form the study of the [illegible] possible despite the greater width of the scope now covered

As a book of reference in a dispensing or chemical laboratory [illegible] in the field of pharmaceutical chemistry

This book has clear print on good paper is well bound [illegible] and a very good colour chart of the common antibiotics in addition [illegible] detail which makes it extremely good value

THE PHARMACOLOGY AND THERAPEUTICS OF THE MATERIA MEDICA [illegible] W [illegible] J Dilling M B Ch B Aberd M P S (Hon) Professor of Pharmacology and Clinical Therapeutics Liverpool University Nineteenth Edition 1951 [illegible] 598 London Cassell & Co Ltd Price 21s 0d

Bruce and Dillings Materia Medica and Therapeutics is now presented in its nineteenth edition and has a history of publication from 1884 Since that time there has been much change in what has been considered to be important in Materia Medica

Professor Dilling has recast the book to meet the changes caused by the British Pharmacopoeia of 1948 and the rapid development of the newer antibiotics hormones vitamins fractions etc

The book contains an introduction one section on Inorganic Materia Medica one on

[illegible] Vegetable and Animal Materia Medica and [illegible] on Pharmacology and General Therapeutics with [illegible] on Surgical [illegible] to information on the Dangerous Drugs [illegible]

In the Materia Medica section of the book [illegible] the actions and uses of these drugs [illegible] General Therapeutics [illegible] the actions and uses of these drugs [illegible] the various [illegible] digestive circulatory etc

[illegible] sick quarters of a ship where [illegible] therwise are not [illegible] it would be a first-class book of reference [illegible] medical officer and his [illegible] the amazing collection of detail [illegible] answer needed [illegible] problems which are sought from [illegible]

[illegible] A Doctor's Anthology Compiled by Dr R [illegible] Foreword [illegible] Brain 1951 Pp xi + 284 Edinburgh [illegible] Livingstone [illegible]

[illegible] of material the medical anthologist has to choose from Most of the [illegible] were practising doctors and there have been a great many others [illegible] have not been mentioned at all With such material the book could [illegible] both interesting and instructive and he must have great experience of [illegible] all aspects who will not be a better doctor for reading it and acting on [illegible] advice it

[illegible] it is perhaps a little [illegible] but this does not matter as it is not a [illegible] What is disappointing is the scanty information about the authors [illegible] the book quoted is given but seldom any more It would have [illegible] attractive if have had a short note about each author or at the [illegible] the list of after each extract

[illegible] the strong, muscle The others are likely to succumb to the [illegible] the next extract [illegible] and will finally put out the light [illegible] later [illegible]

FIRST AID TO THE INJURED B I F Release Six St John Ambulance Film strips

British Instructional Films educational arm of the Associated British group of film companies announce the release of six new film strips devised by and produced in close collaboration with the St John Ambulance Association The series is entitled First Aid to the Injured All these strips have been designed to conform to the St John Ambulance Association's Authorized Textbook of the same title

The six strips which cover a wide field, are Structure and Functions of the Human Body " Dressings and Bandages Respiration " Circulation of the Blood Wounds and Hemorrhage Fractures and Dislocations " and Transport of Injured Persons Ingenious diagrams and specially posed photographs clearly describe the various methods adopted by St John's teams in rendering first aid and provide an admirable means of teaching the correct procedure in an emergency British Instructional Films have given careful consideration to children in the so strips and show that with a basic knowledge of first aid they can deal with accident emergencies themselves

The First Aid to the Injured series of film strips are available for immediate purchase from local dealers or direct from British Instructional Films Ltd Film House Wardour St W 1 The strips are priced at 10s each, or at £3 the complete set of six packed in a handsome carton

News of the Service

OBITUARY

W[illegible] extend our sympathy [illegible]

S[illegible] VICE-ADMIRAL THOMAS *OBE* [illegible] R.C.S.E. [illegible] O.C.B. [illegible] Royal Navy for thirty-four years.

He [illegible] 24th August 1876 [illegible] Hospital [illegible] R.C.P. in July 1899 [illegible] July 1913. He [illegible] Surgeon on the 11th February 1901 [illegible] promoted to Staff Surgeon [illegible] Commander in 1915 and Surgeon [illegible] in 1926. He was [illegible] the 28th August 1934 as [illegible] Surgeon Rear-Admiral [illegible] 31st May 1934. He was [illegible] retired from 3rd February 1935 [illegible] 30th April 1940.

Surgeon [illegible] in H.M. Hospital Ship *Wain*[illegible] his attention was drawn [illegible] patients to safety in the sick-berth [illegible] valuable stores [illegible] the West Coast of Scotland in June 1914. During the 1914-18 War [illegible] H.M.S. *Talbot* and was at the first landings at Gallipoli and was at the [illegible] of Malta. In August 1919 in the Post War Honours List he received the [illegible] *RC* for valuable services in H.M.S. *Talbot* and R.N. Hospital Malta. [illegible] with the North Russia River Expeditionary Force. In July 1923 [illegible] Medical Officer in Charge of R.N. Hospital Portland and from Sep[illegible] June 1929 was in charge of the Surgical Section of R.N. Hospital [illegible] 1st March 1930 he was appointed as Professor of Surgery at R.N. [illegible] and remained in that post until he retired.

During the recent war Surgeon [illegible] Thomas was dentioned for re-employment in the rank of Surgeon Commander [illegible] as the Naval Medical Liaison Officer at the E.M.S. Hospital Park Lane [illegible] and later as the South Medical Officer of a Landing Craft Base.

Surgeon Captain J. S. ORWIN, R.N. (Ret.), a member of an old Exmouth family, died in the Royal Devon and Exeter Hospital on 1st September 1951 at the age of 69 years.

He was born on 11th January 1882 at Edinburgh, educated at Christ's House and took his medical degree at Edinburgh University. He joined the Royal Navy in 1909 and after a course of training at Haslar was appointed to H.M.S. *New Zealand*. His next commission was in H.M.S. *Clio*, a sloop on the China Station, where he served until the outbreak of war in 1914. Returning to England he was appointed in 1915 to H.M.S. *Illustrious* and after several short appointments [illegible] and the light [illegible] H.M.S. [illegible] the Harwich Force as Surgeon Lieutenant-Commander.

He served under Admiral Tyrwhitt throughout the war and was then appointed to the Royal Naval Barracks, Devonport, and later to H.M.S. *Drake*, Lowestoft.

His next appointment in 1921 was as Surgeon Lieutenant-Commander H.M.S. *Cicer*, East Indies Station, during the [illegible] 1924. [illegible] to H.M.S. *Unicorn*, submarine depot ship at Portland. In 1928 he [illegible] Malta as Senior Medical Officer, H.M.S. *Royal Sovereign*, and [illegible] was P.M.O. Royal Marine Barracks, Eastney, [illegible] 1937 with the rank of Surgeon Captain.

[illegible] 1939 [illegible] at [illegible]

Surgeon [illegible] R.N. [illegible] 1900 and [illegible] R.N. Medical S[illegible] in 2nd [illegible] promoted [illegible] in 1908 [illegible] in 1914 [illegible] 1927 and [illegible] on the Retired List [illegible] 1941 [illegible]

During the First World War Surgeon Captain Barker served in H.M. [illegible] and *Bajil* [illegible] at R.N. Hospital Malta. During the Second World War he was [illegible] R.N. Aircraft Repair Yard, Hectlands from 24th April 1941 [illegible] 24th June 1944 [illegible] in 21st April 1943 until 27th June 1944.

Deputy Director General P. MOURITZEN died on 16th December 1951. Born at [illegible] in 1861 he graduated in 1885 and entered the R.N. Medical Service as a Surgeon in 1888. He was promoted to Staff Surgeon in 1896, Fleet Surgeon in 1904 and he was placed on the Retired List medically under in April 1910 with the Honorary Rank of Deputy Director General.

HONOURS AND AWARDS

Companion of the Order of the Bath

Surgeon Rear-Admiral F. G. Hunt, *C.B.E.*, M.B., B.Ch., K.H.P.

Commander of the Order of the British Empire

Surgeon Captain A. W. M. Rorie, M.D., B.Ch., D.P.H., K.H.P., R.N.

Associate of the Royal Red Cross

Miss M. G. E. Milne Houghton, Superintending Sister, Q.A.R.N.N.S.

Miss M. K. Walker, Sister, Nursing Sister, Q.A.R.N.N.S.

George Medal

Surgeon Lieutenant J. C. H. Sheppard, R.N.

A.C.I.(g.), S.B.V. (Local) Malcolm Hughes, D/SMX 868908

British Empire Medal

Civil Division

A.C.I.(g.) Ballantyne, Sick Surgery Attendant

Recommendation for Brave Conduct

[illegible] Sick Surgery Attendant

PROMOTIONS

Surgeon Rear-Admiral K. A. J. Mackenzie, *C.B.*, B.M., B.Ch., M.R.C.S., L.R.C.P., K.H.P., promoted to Surgeon Vice-Admiral and appointed Medical Director-General of the Navy in succession to Surgeon Vice-Admiral Sir C. Edward Gregson, *K.B.E.*, *C.B.*, M.D., Ch.B., K.H.P. March 1952.

Surgeon Captain T. N. McAvey, R.N., promoted Surgeon Rear-Admiral 30.10.51.

Promoted to Surgeon Captain 31.12.51

Surgeon Commanders I. W. Burgham, *O.B.E.*, W. R. S. Panckridge.

Promoted to Surgeon Captain (D) 31.12.51

Surgeon Commander (D) I. R. Longhurst.

Promoted to Surgeon Commander 31.12.51

Acting Interim Surgeon Commanders P. O'Brien, C. D. Cooda, R. I. May, C. J. Ribbarts, M. I. Sheehan, W. B. Teasey, B. W. Walford, W. Wilson.

Promoted to [illegible] 1951
Acting Surgeon [illegible] Lieutenants (D)
J B [illegible]

Promoted to Acting [illegible]
Surgeon Lieutenant [illegible]

Promoted to Surgeon [illegible]
Acting Interim Surgeon [illegible] 18 10 51
Acting Interim S[illegible] A H C [illegible] 5 11 51

Promoted to Surgeon [illegible]
Surgeon Lieutenant (D) [illegible]

Promoted to Acting Interim [illegible]
Surgeon Lieutenants G R [illegible] W H M[illegible] 8 10 51 J S Ritchie [illegible] 4 11 51 D T [illegible] 24 11 51

Promoted to Acting Interim Surgeon [illegible] Commander [illegible]
Surgeon Lieutenants (D) W Hall [illegible] 19 10 51 N M [illegible] 8 12 51

TRANSFER TO PERMANENT LIST

Acting Interim Surgeon Lieutenant-Commander F C Barras 24 10 51

ENTERED FOR SHORT SERVICE COMMISSIONS

Murdock Mackay M B Ch B 15 11 51 K A Naylor M B Ch B 29 11 51 H N Chambers M B B S M R C S L R C P 3 1 52 J F Ryan M B B Ch 17 1 52 E. J Purcell M B B Ch 17 1 52 G Bills M B Ch B 17 1 52 R J Brownlee B D S 17 1 52

RETIREMENTS

Acting Surgeon Lieutenant R C Lemon Short Service Commission Terminated 18 11 51

Surgeon Rear Admiral W J Colburne *C B* F R C S L R C P K H S placed on Retired List 27 11 51

Surgeon Commander (D) L A Monley placed on Retired List 30 12 51

Surgeon Captain W A Hopkins *O B E* 15 1 52

WARDMASTER OFFICERS

PROMOTIONS

Promoted to Senior Commissioned Wardmaster 1 10 51
Act Senior Commissioned Wardmaster T W Titmas

Promoted to Acting Commissioned Wardmaster
S B C P O S C Knight 8 11 51 S B C P O G Jones 26 12 51

RETIREMENTS

Act Senior Commissioned Wardmaster H C Davenport 26 12 51 Placed on Retired List (granted War Service Rank of Wardmaster Lieutenant)

Wardmaster Lieutenant S J Tyler 23 1 52 Commissioned Wardmaster R C Brown placed on Retired List 7 2 52

ADMIRALTY FLEET ORDERS

3338 —Medical—Officers—Admission to Civil Hospitals Registered Under the National Health Scheme

3410 —Medical—Documentation—Introduction of New Sytem

3411 —Medical—Eyesight—Night Vision—Tests

3412 Medical—Members of the Women's Services—Gynæcological Disorders

3424 —Medical—Civil Service Competitions Medical Examinations of Successful Candidates

3508 —Reserves—R N V R Introduction of Annual Medical Examination and New System of Medical Documentation

3605 —Ratings Sick Berth Ratings—Admission to Final Examinations of the General Nursing Council

3667 Dental Treatment—Entitlement Facilities, Records Returns, etc , and Scale of Fees

3703 —Medical and Dental Treatment—Reciprocal Arrangements for British and Canadian Servicemen

3778 —Examinations Sick Berth Ratings—Examination for Advancement to L S B A and S B A in Dispensing—Temporary Relaxation of Standard

3879 —Medical—Vaccination and Inoculation

3968 —Officers—Medical and Dental Officers—Grant of Short Service Engagements

4048 —Medical—Supply of Dentures and Civilian Type Spectacles to Naval Personnel and Entitled Civilians—Procedure as to Recovery of Charges

4128 —Officers Dental Officers R N —Private Practice Reports

4175 —Dental Stores—"Syntrex" Synthetic Filling Material

4234.—Medical—Mass Radiography Examination and Recording

4248 —Medical Treatment of Officers and Ratings when Sick on Shore, on Leave or on Detached Duty—Use of Form S 26, Amended to Apply to Officers and Ratings

4271 —Forms—General—Medical Documentation—New System—Supply of Forms

4311 —Medical—Examinations and Sickness of Officers Medical History Documentation and Procedure

4368 —Medical—Tropical Research Unit—Singapore

JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE ANNUAL REPORT, 1951

Balance Sheet

Assets	£	s	d	Liabilities	£	s	d
Balance in Bank 31 12 51	69	7	9				
Cash and Stamps in hand 31 12 51		5	10				
3% Funding Stock	100	0	0				
3½% War Loan	600	0	0				
Advertisements	96	15	0	Balance Creditor	866	8	7
	£866	8	7		£866	8	7

Audited and found correct

H R Gardner Lieutenant (S) R N

We acknowledge with thanks receipt of the following publications

Annals of Tropical Medicine and Parasitology *Army Medical Service* *Australian Journal of Experimental Biology and Medical Science* *British Journal of Surgery* *British Medical Bulletin* *British Medical Journal* *The Brit[illegible] Bulletin International des Sciences Sociales* *Bulletin of the World Health Organ[illegible]* *Chinese Medical Journal* *[illegible] of the World Health Organization* *Journal* *Guy's Hospital Gazette* *Journal of the Bombay Grant School of M[illegible]* *Journal of the Irish Medical Association* *Journal of the Royal Army Medical Corps* *Journal of the Royal Naval Medical Service* *Medical Journal of Australia* *M[illegible]* *Journal of Osaka University* *Medical Journal* *Medical Technicians Bulletin* *M[illegible] Hospital Journal* *Military Surgeon* *Proceedings of the Staff Meetings of the M[illegible]* *Chine* *La Revue Maritime* *Revue Medicale Universitaire de Montréal* *Revue de M[illegible]* *Navale* *Russkii Dr Medicinskii Zhurnal* *St Mary's Hospital Gazette* *St [illegible]* *Hospital Gazette* *Tohoku Journal of Experimental Medicine* *Tropical Diseases Bu[illegible]* *Ulster Medical Journal* *United States Armed Forces Medical Journal* *[illegible]* *Medical Journal* *[illegible] Hospital* *Technical Hospital Service* *[illegible]* *Medical Bulletin*

Notice

[illegible] Original papers [illegible] subjects [illegible] items of news and matters of [illegible] The naval [illegible] from ships and establishments [illegible] foreign [illegible] Notices [illegible] births [illegible] and deaths are inserted free [illegible] members

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The subscription is 20s per annum (postage included) payable on 1st January of [illegible] year but should a subscriber wish to commence at another quarter he may do so by payment at the rate of 5s per copy All subscriptions are payable in advance Single copies can be obtained at 6s per copy Cheques or postal orders for subscriptions should be crossed Lloyds Bank Ltd and be made payable to the Manager JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE Monckton House Alverstoke Gosport Hants to whom all communications relating to subscription &c should be addressed.

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THE EDITOR
JOURNAL OF THE R N MEDICAL SERVICE
Royal Naval Medical School Alverstoke Hants

VOLUME XXXVIII SERIES [illegible] No. [illegible]

Journal
of the
Royal Naval Medical Service

Editorial

SINCE the end of the Second World War the task of publishing the Journal has become increasingly difficult. Economic difficulties have certainly contributed greatly increased production costs, loss of revenue from subscriptions and from other sources have produced a situation that can first be described as unstable. At times it has seemed that production must cease. Increase in subscription rates to allow the Journal to become an official Admiralty publication were considered but for various reasons were rejected. We would like to remind you that the yearly subscription rate of £1 has never been increased since the foundation of the Journal in 1915.

Another suggestion, the amalgamation of our Journal with that of the Royal Army Medical Corps, merited further investigation. It was thought that with the co-operation of the Royal Air Force Medical Service a new combined medical services journal might be started under a title such as the United Services Medical Journal.

During 1950-1951 several exploratory meetings were held between representatives of the three Services. As was only to be expected there was a good deal of sentiment in the Medical Services of the Royal Navy and the Army for preserving the individuality of its own Journal. The Royal Air Force Medical Service, which never having possessed a Journal of its own tended to be unbiased.

The finances of the new venture needed very careful consideration; it would of necessity have to pay its way from the start and assurance was wanted that the number of subscribers would be adequate for this purpose. Methods of editing and management did not always command unanimity of opinion.

By the middle of 1951 the negotiations had reached the stage at which it was decided to hold a referendum. Members of the three Services were invited to express their opinions as to whether amalgamation was desirable or not, and if desirable whether they would support the new Journal. The response from the Navy, which alone is considered here, showed that neither of these were popular enough to produce a majority in favour of them. It was therefore decided at a final combined Service meeting in January 1952 that the present time was not opportune for pursuing the idea further.

This decision means that our Journal will continue to be published as an independent periodical. It should be emphasized that the word MEDICAL embraces every branch of the healing art and that this naturally includes the

[illegible] of the journal necessarily depends on the support it [illegible] present Medical and Dental Officers of the Royal Navy [illegible] Naval Volunteer Reserve not only in the matter of [illegible] contributions Our aim is not to compete with the great [illegible] but there is a vast amount of clinical and other [illegible] found in our Hospitals and Sick Bays ashore and afloat which is not only of medical and dental interest but which also have a direct relation between them and Service conditions Nor should we forget the value of articles on travel and naval medical history One further item which we would welcome is the News Letter from any part of the world in which Medical or Dental Officers may find themselves

Let our motto therefore be to interest to elevate to amuse Our survival depends on your continued support and co operation and by your [illegible] efforts in the future may we look forward to a long and vigorous life

Articles

H.M. NAVAL BASE, SINGAPORE. A GLIMPSE INTO THE HYGIENE AND ANTI-MALARIAL PROBLEMS

BY

Surgeon Captain DAVID DUNCAN, R.N.

PRESIDENTIAL ADDRESS TO THE SERVICES GROUP OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH 11TH JANUARY 1932

GENTLEMEN

I am very diffident in addressing such an assembly of the hierarchy of the medical world Some of you may know that for the time being I have forsaken the hygiene faith[1] and am now engaged in treating and trying to cure diseases many of which you and I have failed to prevent I therefore have had to find for this Address a means of escape somehow somewhere and I have chosen to go back to the jungles of Malaya where I spent some ten years to give you a few glimpses of the medical aspects of the building of the Naval Base in Singapore

It was in 1923 that Surgeon Commander Given was summoned to the Admiralty and told that he was being appointed adviser on anti malarial work to the Civil Engineer in Chief on the construction of a new Naval Base at Singapore The appointment carried with it great responsibilities Given a tough little Irishman had had some experience in investigating the mosquito menace in Bayling Island He was given a short course at the London School of Hygiene and Tropical Medicine had private demonstrations from Professor Alcock mused around the Wellcome and British Museums but soon realized that his research must be in the field where he would be aided by pandits with local knowledge

[1] Since this Address was given Surgeon Captain D Duncan has been appointed Naval Medical Officer of Health Chatham

Thus in Nov[illegible] 1923 Given sh[illegible] Sa[illegible] [illegible] ly too well how little he knew. He *did* know that the [illegible] and the Federated Malay States [illegible] time white incompetently [illegible] [illegible] control. He knew that if this were [illegible] be equally true in the project now in hand.

He probably remembered how in 400 B.C. Cyrus [illegible] Cambyses [illegible] his first campaign. To quote

"When folk are ill your doctors can [illegible] them up. But your own care for their health ought to go far deeper than that: your prime object should be to save your men from falling ill at all."

"And pray, father," asked Cambyses, "How can I succeed in that?"

"Well," answered Cyrus, "I presume if you are to stay long in one place you do your best to make a health spot for your camp; and if you give your mind to the matter you can hardly fail to do so."

These must have been far seeing leaders and campaigners; they were *not* Doctors but James Laird, Physician to the Fleet and father of nautical medicine, associated superabundance of mosquitoes with unhealthy sites and pointed out that the best way of preserving the health of Europeans in the tropics was to choose or to make a healthy site— high, dry ground or the site could be made healthy by draining and cutting down undergrowth. He lived and wrote 150 years before the discoveries of Manson and Ross. He was our greatest naval hygienist and although this is a diversion it is appropriate to mention his name when discussing, as we are now, the preservation of health in the tropics by Naval Medical Officers.

This is what Given saw. Undulating country, hills, ravines and mangrove swamps, all fairly safe if not meddled with by man. Native squatters were almost free from fever, spleen rate amongst children was practically nil. Nevertheless he was concerned at what would happen when levelling hills and filling swamps were being carried out unless the methods were entirely under the control of a malariologist.

He had the advice of amongst others, the then Dr. Malcolm Watson, who had had much experience of malaria in Malaya, and to whom credit is due for placing the malarial control there twenty-five years ahead of any other country in the world.

Given made up his mind that the Naval Base would be a model to the rest of Malaya. Many doubted him when he said that he would not only rid the Naval Base of malarial mosquitoes but also of the pests Culicine and Stegomyia which were accepted in Malaya as—well, just acts of God. He not only appreciated the dangers of malaria carrying mosquitoes, he knew the discomfort, irritation, prickly heat, boils, sleepless nights, neurosis, etc. caused by the innocuous mosquito. After a period of hard work, which only touched on the fringes, there was a short interval when a change of government stopped all work on the Base. It was to the credit of Given that he insisted that a party be left behind to maintain the anti-malarial work already done.

I arrived in Singapore early in 1931 and my introduction will not be

forgotten Two small offices probably about 12 feet by 12 feet or less maps and charts microscopes mosquitoes in cages live pythons in boxes snakes in bottles jars of larva-eating fish butterfly nets agricultural pipes and drain rods and there amidst this conglomeration at his desk sat Surgeon Commander Given He greeted me in his Irish brogue with Are you strong? I thought as a rugged Scot of under thirty years that I was strong enough but I did not know what he meant not then!

It was arranged that at seven next morning Sunday we would have a walk around one of the many valleys At two p m I was still dragging along, now more behind him than beside him By this time he had cast his shirt his back was as black as a Tamil s except that the hair was ginger I do not know what his chest looked like I was never able to gain the vantage position to get the view

I was going to have my first early tiffin that day but I found that I still had plenty of time to get the mud off my knees and change because Sunday tiffin in Singapore rarely commences before three Tiffin was scarcely finished when I was summoned to play tennis by Given We played singles on a hard court until it was too dark to see and I was too weak to care Then he said Just let us have a run down to see the garden Half a mile downhill was not too bad but running the half mile up again led in the dark along a narrow footpath by a fox terrier was not such fun By this time I knew what was meant by being ' strong The P & O *Macedonia* had left Singapore and I had no getaway

We worked from daylight till dark creeping through swamps on hands and knees rearing different species of fish for devouring mosquito larvæ mixing different oils to discover the optimum film produced on the surface of water necessary for the destruction of larvæ identifying mosquitoes and their larvæ and even discovering new entities

It was the custom then for all the staff in turn to sleep in an open mosquito net in the jungle in order to trap mosquitoes at dawn for identification I am afraid I was the first to job a tiger had been seen in the vicinity I did not mind being bait for mosquitoes but I was not being bait for tigers

One of the problems in the Fighting Services on such specialized undertakings is the change of staff at two or three years interval It is noteworthy that Given and I with a short break of less than two years maintained a complete continuity in Singapore for fifteen years from 1923 until 1938 I maintained the continuity much longer both in my capacity as Adviser to the Medical Director General in hygiene for nearly another ten years and then again in Singapore after the re occupation

It is not implied by any means that we were the only workers The late Surgeon Commander Fitzroy Williams my present Director Vice Admiral Sir Edward Gretson Surgeon Captain Rainsford Surgeon Commanders Currie Muckler Southwell Saunder and several others have all played their part in the field

The health measures necessary in a community of 10 000 to 20 000 in the tropics living often under primitive conditions presents a considerable prob

lem and an efficient organization has to be maintained if one is to keep one's finger on the pulse

The first and basic principle was the creating of a health spot sanitation in its widest sense mosquito control water carriage system thorough scavenging disposal of refuse control of shops etc

Secondly judicious and thorough examination of all new entries so that carriers could be eliminated or admitted to hospital for treatment before starting work

Thirdly an efficient record department which showed the trend of health in the entire community or in any one section at any time

All Admiralty European employees and their dependants receive free medical treatment as far as is practicable with available facilities This was the practice from the beginning and was not as it is in many of our establishments abroad now a counterpart to the National Health Service in this country

With regard to Asian employees the Admiralty did not allow themselves to be bound by the local Government Labour Ordinances but agreed that their standards of conditions and principles should not in any way fall beneath those required Generally speaking our standards have been well above those laid down by the Ordinances

Since the Admiralty assumed the entire responsibility for the health of the Base it was incumbent upon us to keep a close check on all Asians employed together with their families whether they were Admiralty employed or employed by contractors sub contractors or sub sub contractors It was then as it is today all new entries be they Tamils Bengalis Malaharis Sikhs Chinese Malay Javanese or Boyanese are carefully medically examined Records are kept of height weight age hæmoglobin index spleen index heart and lung condition and general physique Subsequent observations and hospital treatments are added as time goes on We had our system at the Naval Base a quarter of a century before the word Pulheem with its F Meds was coined

Anti malarial control is a subject as profound as any branch of medicine The sick list charts show how in the early days of the Naval Base the sick rate was dependent on the malaria rate As time went on anti malarial control extended over more and more of the Base first by temporary control and then as labour and material became available by permanent control The temporary measures open earth drainage and oiling extending into the areas which were being opened up in the rear the permanent measures i e contour and subsoil pipe drainage were replacing the temporary ones In 1931 we find the temporary control practically complete and a comparatively malaria free community

In April 1932 without warning a catastrophe occurred The malarial rate shot up and within a period of four months we had recorded 4 000 cases At the peak of the outbreak there were 515 cases actually under treatment in the Naval Base Asiatic Hospital and nearly 2 000 cases on the attending list

[illegible] which the breeders in [illegible] had [illegible] and to carry malaria

With some hundreds of acres of swamps already cleared and now in the process of being filled the control of *A ludlowi* indeed appeared an insurmountable task

The details of the epidemic are interesting from a malariologist's point of view The weight of a train tipping soil caused the floor of the swamp to bulge upwards The bulged up area rising above high tide level cracked in the heat of the sun The crevices so formed contained a small amount of sea water which was soon diluted by rain to give the required salinity for the propagation of *A ludlowi* There were a dozen trains continually tipping at different points of the swamp and as each train produced rather fresh cracks in old welled up areas or raised up fresh areas the difficulty with which one was confronted can scarcely be conceived

The optimum conditions for the breeding of *A ludlowi* and the reasons why they should suddenly become malaria carriers are not yet fully understood The noteworthy malaria epidemics due to *A ludlowi* in Malaya have thrown some light on the subject and one recognizes that any work in swamp areas in the way of clearing of mangrove filling or any interference with the free access of the tide, creates conditions favourable for the breeding of *A ludlowi* The outbreak at Port Swettenham when that beautiful harbour just drained and built had to be temporarily closed down a few months later was one of Dr Malcolm Watson's disappointments The Geylang outbreak occurring during reclamation work for the Singapore Airport in 193 is of interest The outbreak at the Naval Base was still fresh in the memories of the local authorities but despite the lessons learnt and all precautions which were taken this outbreak assumed proportions which may be regarded as one of the most serious outbreaks in Malaya

Rubber planters tin miners and commercial firms in general as well as the local Health Authorities are too well aware of the ravages and economic distress which can be caused by malaria to relax or to ignore the necessary vigilance

There are three main methods of control of malarial infection in Malaya based on the life histories of the three principal carriers Our sheet anchor is and has been the eradication of mosquito larvae With over eight square miles of swamp rubber plantations and jungle with their ideal breeding grounds for *A maculatus, A ludlowi A umbrosus* etc it has been a long and persevering job to bring the area little by little under strict control

The second method Preventing the access of mosquitoes by mosquito nets mosquito proof rooms indoor spraying etc is used by a few and then only to prevent disturbance by domestic mosquitoes moths sand flies and other insects rather than as an anti malarial measure

The third method of preventing infection is the prophylactic drugs as quinine atebrin paludrine etc This form of control should not be necessary except in emergency I am of the belief that in a static unit or where as in a ship one has the means of early diagnosis and early treatment it is better

to [illegible] it rather than [illegible] malaria unless [illegible] of [illegible] malaria [illegible] operating in uncontrolled [illegible] necessary to keep [illegible] on his feet is a different [illegible] suppressive drugs have the power

The safety of all therapy is relative and must be considered in [illegible] the dangers of the disease it cures or prevents

Mepacrine there is no evidence to show that the taking of this drug over long periods causes any permanent disability although it does produce in a very small number of cases gastro intestinal disturbance psychosis and dermatitis

Other suppressive drugs less toxic and more effective even to the extent of being casual prophylactics are now available

To revert to the eradication of mosquito larvæ this is done by removing as far as possible all breeding places such as surface springs seepages and collections of water either by filling open earth drainage or subsoil drainage As a temporary measure or if neither of these methods are appropriate or as an adjunct to these measures spraying of anti malarial oil is resorted to

Open earth drainage usually a temporary measure requires constant maintenance in clearing repairing and spraying Where subsoil drainage is carried out the area is rendered safe and may require little attention for many years It lowers the level of the subsoil water as well as tapping springs and seepages before they reach the surface It has a purpose quite distinct from surface water drainage but it is to be remembered that a well drained subsoil can absorb surface or storm water to such an extent that surface channels may not be required Two feet of 50 per cent porous soil can deal with about 10 inches of rainfall If these pipes are laid at proper depths and at intervals according to the type of soil a considerable depth of dry well drained soil is available to absorb any rainfall

Whilst subsoil drainage provides a measure of drying up ravines and generally lowering the subsoil water level a similar result can be obtained by filling or raising the level of these ravines or swamps with earth This measure has been carried out extensively on the Base not so much as an anti malarial measure but to afford areas square miles even of reclamation for buildings playing fields etc Although the surface levels are raised by filling a system of drainage surface or subsoil is usually necessary to keep the area dry

The opening up of swamps and overgrown ravines allows sunlight in and favourable conditions are created for the breeding of *A. maculatus* Clearing of such areas must be started from below i e at tidal level and working upwards draining as the filling and clearing of the jungle proceeds ensures a change of water with every tide In other words one must find the lowest level at the sea board and from there continue cutting upwards or as one may say backwards sinking the drains to the lowest possible level all the way This is often difficult in long stretches of low lying ground where it may be necessary to fit automatic tidal gates to allow drains to empty themselves at low tide and to stem the inflow of sea water at high tide

[illegible] paper to go into many of the interesting aspects [illegible] measures such as the housing of an Asiatic population [illegible] goats and the provision of suitable w[illegible] control and disposal of night soil

[illegible] dealing with an Asiatic population apart [illegible] If an Indian makes up his mind to die on Thursday [illegible] will live until Friday nor does one need to fear that [illegible] on Wednesday In some cases there are neither clinical nor p m [illegible] count for death

[illegible] also to be contended with There was the [illegible] which was reputed to be sacred and which had to [illegible] the new dry dock Indians asked for a bonus of [illegible] to appease the evil spirits Neither the Treasury the Lords [illegible] the contributing firm could find a column in their ledgers [illegible] for divitching! No money was forthcoming until the Indians [illegible] predicted that within nine months three leading Europeans would die [illegible] plague of some kind would stop work on the Base The Managing [illegible] the contracting firm died in London suddenly after an [illegible] in Singapore died of malaria the one and only [illegible] died of malaria in the Base and his subagent who [illegible] was invalided home and died This all [illegible] months the big malaria epidemic had also begun within [illegible]

[illegible] the fairly bad was a great problem too All [illegible] including Suttons with all its modifications [illegible] relapse rate at any time the readmission rate was [illegible] cases When Baxter produced its bum although it had [illegible] trial we felt the time had come to try anything short of [illegible] My published records of satisfactory results and records [illegible] are past history as other drugs have been produced [illegible] their worth in conditions as severe and trying as those on [illegible] The chemotherapeutic research carried out in the last few [illegible] on disposal several specific anti malarial drugs of a value [illegible] prevention and treatment of malaria unknown to us in the early [illegible]

[illegible] Singapore again after the Japanese occupation I found [illegible] and good hygiene was now chaotic and pitiful [illegible] all anti malarial work had been at a standstill [illegible] anti malarial drains slabs of concrete drains had [illegible] and bitters drains were blocked with rubbish and [illegible] the roads and main sewers had been bleached with [illegible] night soil for the cultivation of vegetables The [illegible] their homes and families evoked horror at the [illegible] such barbarism disease and malnourishment [illegible] The days of the jungle had returned

[illegible] Bumbung Pulai forty miles distant in Johore

had been cut off and the reservoir allowed to run dry. Sanitary services were at a standstill, mosquitoes and flies were breeding everywhere and epidemics appeared imminent.

One thing that can be said for the Japanese is that they were past masters, trained in American methods, in producing and using vaccines and sera.

The King Edward VII College of Medicine in Singapore, with large annexes—stables and animal houses built on, stiffed by Japanese Scientists and Doctors with the highest degrees—was used almost exclusively for the production of vaccines and sera. The Japs were extremely frightened of infectious diseases. There was a wholesale vaccination and inoculation of the community against smallpox and typhoid. In the cholera outbreak of 1943, 164,000 were immunized. Thus Singapore was saved from the ravages of typhoid, cholera and smallpox.

There were no such preventive measures against malaria, and so the lives of the community were sapped by a countless fever. There was practically no malaria in the Japanese Empire, but it is an interesting fact that long before the war when I had intimate communions with the German firm of Bayer, the Japs were having up an excessively large amount of stuff from them.

As the war went on, food had run short in Malaya, and the population was reduced to a starvation basis. The "Grow More Food" campaign involved the use of every scrap and night soil, and still drained valleys were utilized for food production. Other valleys, in their jungle state, and far from malaria, were opened up without anti-malarial control. Malaria began to become widespread. During the occupation many hundreds of Chinese had been transported to Cameron Highlands, 6,000 feet above sea level, with a small sack of rice and to shift for themselves. They had to work hard to produce food for the Japs. The sad was that when I visited Cameron Highlands in 1946, anopholines were breeding freely. I think this was unknown in pre-war days.

The Japanese destroyed the hospital records at the Naval Base, but it is known that malaria and dysentery were endemic during the period of occupation.

There was no doubt that the Japanese in their hearts knew that the Singapore was not to be theirs for long. It was interesting to note that Colonels [illegible] feet deep were unharmed in what appeared to have been a [illegible] bunker, nor was there any mud infiltration. Where salt drains were laid up to the surface, they were freed to the depth of the [illegible] that they had to be lifted and relaid to carry away water which has seen appeared as seepages on the surface.

The Naval Base being a potentially malarial area, the protection of personnel as long as this remains an operating base can only be achieved by continual local control, not only within the establishment but around the perimeter. Sir Sheldon Dudley has said: "The terrible cost of preventive medicine is that no one realizes its necessity until disaster has struck, by its neglect."

The measures now adopted by us in Singapore were little less than

[illegible] twenty years ago New methods new [illegible] but old methods [illegible] principles for breaking a link in the life cycle of the malarial parasite [illegible] have been evolved during the last quarter of a century That our control [illegible] have not been changed to any degree is not due to backwardness [illegible] lack of enterprise but to the fact that after extensive trials the old [illegible] methods with slight modification have been deemed the best for [illegible] requirements

The [illegible] our system of control is a labour force of nearly 300 and the expenditure [illegible] 130 000 gallons of anti malarial oil per year

This costliness about £50 000 per year will not go on indefinitely There much less is since the occupation to be made up and as open earth drains and other temporary work is replaced by permanent subsoil or slab drainage [illegible] will the control commitment be reduced in magnitude

The credit side of our present system is no malaria and no endemic disease with its incidental saving of man hours and hospital expenses

The Admiralty is now directly or indirectly concerned with the welfare and provision of medical and other facilities for nearly twenty thousand persons

The accommodation for Asians consists of brick and concrete blocks with their own shopping centre schools and cinema There is electricity main drainage and a pure water supply

There is a Naval Sick Quarters for European ratings There is a modern Asian hospital with two operating theatres X ray department and a mass miniature radiography unit There are beds for general medical and surgical cases beds for tuberculosis of both sexes and an annexe for women and children

There is a women and children s clinic and provision for ante and post natal care with seven midwives available for confinements

A Tropical Research Unit has been established at Singapore jointly by the Admiralty and the Medical Research Council

These are a few fleeting glimpses of some of the aspects of the building of the great Naval Base at Singapore Most of it is old history but the lessons learnt must not be forgotten

If the day comes and that day may not be long delayed when you and I must again put our best foot forward there may be other Naval Bases to build camps for troops and airfields for the Royal Air Force The sites may be even more malarious and treacherous than Singapore but let us not forget the advice of Cyrus

> If you are to stay long in one place you do your best to make a healthy spot for your camp and if you give your mind to the matter you can hardly fail to do so

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THE DENTAL EMERGENCY

BY

Surgeon Lieutenant-Commander (D) W HALL, R N

THIS article is primarily addressed to the Medical Officers of the Royal Navy with many of whom I have had the pleasure of working in the operation for a number of years Often a Medical Officer has expressed the hope that he would never be called upon to treat a dental case He has confessed to an imperfect knowledge of the proper technique to employ I have always been ready to assist my medical colleagues in the practice of dental surgical methods and have received in exchange the satisfaction of knowing that I have succeeded in removing a source of worry Cases of acute dental pain frequently occur in ships and isolated shore establishments which do not carry a Dental Surgeon and it was the thought of the Medical Officer holding such an appointment which first prompted me to write this paper It is submitted with the hope that it may fulfil in part what appears to me to be a long felt need

Dental pains of common occurrence are symptomatic of any one or more of the following conditions

- Diseases of the Dental Pulp
- Diseases of the Tissues Adjacent to a Tooth
- Physical Injury to a Tooth
- Painful Eruption of a Wisdom Tooth
- Impaction of a Wisdom Tooth
- Pain Following Tooth Extraction
- Wounds of the Face and Jaws
- Diseases of the Gingivæ
- Hæmorrhage after Tooth Extraction will be discussed in addition to the above

It is not proposed to do more than present a brief survey of the conditions listed above They are however the cases most commonly met with among naval personnel and therefore the ones which any Medical Officer may be expected to relieve

Diseases of the Dental Pulp

The commonest is Acute Pulpitis

Cause —Injury to the pulp by bacterial toxins which have entered by way of a carious cavity in the tooth is the usual cause Other causes are traumatism thermal changes of an excessive nature conducted through a metallic filling chemical irritation by a filling irritation by galvanic action between two dissimilar metal fillings and the extension of inflammation from the tissues around the tooth

Pathology [illegible] which increases [illegible] to go to sleep [illegible] peripheral capillary [illegible] Suction [illegible] patient's tongue will increase the pain if the pulp is exposed in the cavity [illegible] Thermal changes sweets [illegible] the pressure of food in the cavity will tend to do likewise

Treatment The most satisfactory treatment is the removal of the cause [illegible] not be possible without referring the case to a dental surgeon [illegible] often sufficient merely to relieve the pain by the administration of [illegible] or some other sedative compound When a cavity exists in the tooth it is good dentistry to fill it very gently with a stiff mixture of [illegible] and oil of cloves into which have been incorporated a few cotton [illegible] The oil of cloves has an obtundent effect which will remove the pain Extrusion of the dressing in the cavity can be improved by carefully excavating some of the caries It is essential that the excavator is not used [illegible] or carried deeply into the tooth Such surgery will probably expose the pulp and increase the difficulties of the dental surgeon to whom the [illegible] be referred as soon as possible

Should the symptoms of acute pulpitis persist after the treatment advised then it will be necessary to extract the tooth

Diseases of the Tissues Adjacent to a Tooth

(1) Acute Periodontitis This is by definition an inflammation of the alveolar periosteum of the roots or root of one tooth

Cause The pathology is usually due to the spread of inflammation or micro organisms and their toxins from a diseased pulp by way of the apical foramina of the root Other causes are the traumata of excessive occlusal stress a blow on the tooth or ill fitting crowns and dentures The pressure of a neoplasm of the jaws on the root can also cause the condition

The progress of the disease is rapid and the clinical symptoms marked There is at first discomfort and a feeling of tension due to an excess of blood in the part and the resultant pressure on sensory nerves The tooth is loose and slightly raised in its socket Pressure on the tooth may give relief by forcing blood out of the vessels thereby decreasing the tension In more advanced [illegible] this is not so Pressure will then cause intense pain In fact the patient may complain that he cannot bear to bite on the tooth A red ring may be [illegible] at the margin of the gum and there may be slight redness The cellular tissue of the face will be unaffected at this stage

As the case worsens and if the cause is the toxic products of micro organisms the tooth becomes looser and more raised in its socket Pressure and percussion will [illegible] the most excruciating agony There is a marked swelling of the [illegible] alveolus and a constant pain of a dull throbbing nature The lymphatic glands of the submandibular region will be enlarged and the condition if left untreated will progress to suppuration and the formation of [illegible] alveolar Abscess

Treatment —If elimination of the cause is not possible when the patient is first seen the employment of counter irritation of the skin and the mucosa will frequently do much to encourage resolution It is recommended that the gum is dried and then painted with tincture of iodine mitis Very hot mouth-washes containing a few drops of Dettol should be prescribed four hourly and each mouthful should be held in the mouth for two minutes Heat should never be applied to the outside of the face as this will tend to the formation of a sinus through the cheek Pain will be relieved by sedation Should the condition deteriorate and suppuration take place the tooth must be extracted

(b) Acute Alveolar Abscess This commonly met condition is the extension of pathological processes of the dental pulp and the periodontal membrane It is possible to deal conservatively with a chronic abscess but in the acute form it is better to extract the affected tooth and so remove the cause and establish surgical drainage in one operation

The appearance of an alveolar abscess is too well known to be described here It is felt however that some guidance in the manner of treatment would be welcomed

In a case of marked swelling with involvement of the submandibular lymphatic glands and the cellular tissues of the face and neck the patient should be admitted to the Sick Bay and watched closely for several days Hot antiseptic mouth washes should be prescribed and the tooth involved in the abscess extracted under a penicillin umbrella It is my custom to have injected 200 000 units of penicillin into the buttock one hour before the operation and thereafter the same amount t d s for two or three days In this way it is hoped to avoid the liberation of a bacterial shower into the circulation at the time of extraction The dangers of neglecting such a precaution cannot be over emphasized The hot mouth washes should be continued after the operation and until such time as the wound is healing normally

The remaining common causes of dental pain result in one or more of the three pathological conditions already described

Physical Injuries to a Tooth

Injuries to a tooth are commonly caused by accidentally biting on a hard object during mastication or by a direct blow In either case the tooth may be fractured or merely displaced The aim of the treatment prescribed should be the saving of the tooth For this reason the services of a dental surgeon should be sought without delay Displacement of a tooth will result in periodontitis for which counter irritation and hot mouth washes are recommended Fracture of a tooth is very much more serious

Fractures of the root have been known to unite though such a happy ending is rare Fractures of the crown of a tooth occur quite if a fragment is broken off it is written off In such a case there are one insignificant and two unfavourable sites of the fracture The loss of a small piece of enamel is insignificant unless it is unsightly It may require nothing more than the smoothing of its sharp or rough edges so that chronic irritation of the mucosa of the lips cheek or tongue may be avoided The unfavourable fractures of

transverse fracture [illegible] the crown at levels placed nearer the neck of the tooth In one case the dentine will be exposed and because the dentinal tubules contain non medullated sensory nerve fibres the patient may complain of pain Treat this by applying antiseptics to the exposed dentine such as zinc chloride or alcohol and hot air In the other and more serious case the site of the fracture may involve the pulp It is not uncommon to see the pulp hanging free into the mouth in such circumstances and the condition is extremely painful The only course to adopt is to inject a solution 3 per cent novocain around the tooth serve hold of the pulp with a pair of fine tweezers and pull it out The root canal should then be filled with a thin mix of zinc oxide and oil of cloves Where it is not possible to extirpate the pulp and fill the root canal the exposed tissue should be cauterized by the application of phenol on a pledget of cotton wool

If by the employment of such conservative methods the tooth remains aseptically in the patient s mouth long enough for him to present himself at a dental surgery the Medical Officer will have done him a great service The dental surgeon can then take over and prosthetically restore the damaged tooth If on the other hand such methods fail and swelling and suppuration supervene the tooth is for better out and should be extricated

Painful Eruption of a Wisdom Tooth

The third permanent molar or wisdom tooth erupts between the ages of 18 and 25 in most cases This may be accompanied by pain swelling and some difficulty in opening the mouth The pain is experienced along the course of the third division of the trigeminal nerve The patient may think that it is arising from some other tooth or he may complain of neuralgia of one side of his face Swelling of the soft tissues over an erupting tooth may be great enough to occlude with the teeth of the opposing jaw which will result in ulceration of the mucosa

The treatment is to prescribe hot mouth washes to reduce the inflammation and sedatives to relieve the pain A short incision of the gum over the tooth will hasten its eruption and relieve the tension of the soft tissues Application of iodine to the gum is an effective method of obtaining relief

Impaction of a Wisdom Tooth

In this case the erupting wisdom tooth has become impacted against the roots of the second molar The pain is very severe and the condition amounts to a pericoronitis of the other teeth involved in the infection

One method of treatment which is not viewed with favour is the extraction of the other teeth The treatment recommended is sedation and hot mouth washes The case should be referred to a dental surgeon as soon as this can be done Surgical extraction of impacted teeth requires a high degree of skill and should not be undertaken

Pain Following Tooth Extraction

It frequently happens that an effort is made to render the employees of small ships dentally fit before they go to sea and out of reach of a dental surgeon This may mean that trouble will very soon after having had a tooth

extracted. In [illegible] unforeseen [illegible] the [illegible] Medical Officer may be faced with cases varying from [illegible] post-operative pain to necrosis of a tooth socket.

Post-operative pain is best treated with codeine and hot saline mouth washes. Antibiotics may be administered if there are any signs of infection.

A necrotic socket sometimes called a dry socket is often the consequence of the local ischæmic action of the adrenalin used in conjunction with most local anæsthetic solutions. It may be caused by the washing out of the blood clot by too frequent rinsing of the mouth following an extraction. The third common cause is a disturbance of aseptic liquefaction of the clot. In an advanced case there may be suppuration with the exfoliation of sequestra and the question of osteomyelitis must be considered. An early case should resolve without sequestration having taken place if treated promptly and correctly.

The treatment is to irrigate the socket with very warm normal saline (Winter 1940) so removing sloughs and other septic debris. A hot solution of Dettol can be used alternatively. Penicillin is here a valuable adjunct. Alhucid wound ointment smeared on a tape may be introduced into the socket after it has been irrigated and this should be repeated each day for three or four days, each time reducing the length of the tape. On every attendance it will be noticed that the socket is gradually filling up with granulation tissue which will epithelialize over.

Wounds of the Face and Jaw

Injuries involving the hard and soft tissues of the face and jaws call for special treatment in a properly equipped and staffed maxillo-facial plastic surgical unit. No operation should be attempted other than simple procedures coming under the heading of first aid, unless the case cannot be transferred to such a unit in good condition and in reasonable time (Ogilvie 1941).

It must be remembered that the utmost amount of tissue, hard and soft, should be conserved for reconstructive purposes. In a highly vascular region like the jaws and their associated parts this is not so impossible as it would seem. Every scrap of periosteum will play a part in reforming a shattered mandible if sepsis is controlled. Loose fragments of bone in a comminuted compound fracture should not be removed from the wound.

First aid to the patient should be designed to relieve pain and sepsis. Most important is the prevention of respiratory obstruction. The risk of fatal haemorrhage in these cases is not the loss of blood which is usually not great and in any case soon stops, but the formation of large clots obtruding the airway. Good oral hygiene should be aimed at. The patient can often do much for himself if he is provided with a Higginson's syringe or a rubber bulb syringe to which a soft catheter has been attached and some antiseptic solution. With this apparatus he can irrigate his mouth frequently. If the journey to the maxillo-facial unit is long he should be allowed to take the syringe, a supply of antiseptic and a feeding bottle with him for use while travelling.

Damaged teeth should be left alone unless they are very loose and easily removable.

A fractured [illegible] should always be immobilized by the upward not backward pressure of a barrel or a four tailed bandage No reduction or apposition of the fragments should be attempted as a first aid measure (Kelsey Fry *et ulia* 1942)

Diseases of the Gingiva

(*a*) Catarrhal Gingivitis This is the simplest disease of the gums The patient complains of blood on his toothbrush and it will be found that the papilla between his teeth will bleed readily on pressure The mucosa of the gum margins will be inflamed and swollen to a varying degree

This condition is usually the result of chronic irritation of the gums by deposits of tartar on the teeth It is believed by many that a vitamin C deficiency is an important causative factor

Treatment is simple and highly effective if the patient is urged to brush his teeth regularly after meals using the brush to massage his gums A visit to a dental surgeon for the removal of any tartar is important

(*b*) Ulcerative Gingivitis This is frequently the outcome of an untreated catarrhal gingivitis or it may be a similar condition further complicated by a Vincent s infection

In such cases the patient complains of pain and can show a rise in temperature The gums are very oedematous with marked ulceration of the papillæ which also bleed freely when touched There is in addition an unpleasant odour

It is important to realize that Vincent s disease can rapidly sweep through a ship s company For this reason the patient must be instructed to use his own eating and drinking utensils and none other

The treatment in the ulcerative stage is to paint the margins of the gums with 10 per cent chromic acid followed up with a hydrogen peroxide mouth wash Fullest advantage is gained if the mouthwash is forced in and out between the teeth for two minutes each mouthful After a day or two it will be possible for the patient to commence regular tooth brushing and gum massage without discomfort It is then reasonably safe to assume that the infective stage will be over in a further two days All cases should be referred to a dental surgeon as soon as possible for the institution of proper oral hygiene and the elimination of carious teeth which offer a nidus for pathogenic bacteria

How to Dress after Tooth Extraction

In most cases encountered in the Navy this emergency is due to infection of the tooth socket rather than to blood dyscrasias The treatment should be designed to stop the bleeding quickly and to eliminate the infection The bleeding socket should be irrigated with an antiseptic solution and a pad of gauze soaked in adrenalin placed over not into the socket on which the patient is instructed to bite firmly until the bleeding ceases It is advisable to admit the patient to the sick bay and keep him in bed for twenty four hours Mouthwashes are to be avoided and everything is to be done to preserve the integrity of the blood clot If the adrenalin pad should fail another soaked in turpentine should be substituted for it The action of turpentine does not

se[illegible] results [illegible] very satisfactory

A very reliable means of stopping bleeding is the placing of a suture across the socket Ophthalmic suture needles will be found very handy in a confined space like the mouth

It is emphasized that a socket should not be plugged except as a last resort A plug prevents the formation of a blood clot large enough to fill the socket and necrosis may be the consequence

CONCLUSION

It is my earnest wish that every effort will be made to preserve the human dentition in its entirety To this end I have suggested various simple methods of conservative dental treatment which may be dispensed without difficulty The random extraction of an injured tooth is nothing more than the mutilation of the patient radical treatment should not be carried out unless the case warrants it and only after thorough clinical and radiological investigation

The common dental diseases and injuries are discussed and various simple emergency methods of treatment are recommended The value of the antibiotics is emphasized and a warning is given of the danger attendant on the plugging of a bleeding socket In conclusion a plea is made for the conservative treatment of such cases Extraction of the tooth should be done only when sepsis is present

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SHARKS[1]

SOME time ago a certain amount of interest was shown in the daily press concerning the danger of attack on swimmers by sharks Opinions differed on this subject and a correspondent in the *Sunday Express* quoted two authorities which would appear to prove that the danger is almost non existent These authorities are firstly The Natural History of Nonsense which states actual authentic cases of man being attacked by sharks are very rare and secondly a pamphlet for airmen issued by the United States Navy Bureau of Aeronautics which states There is practically no danger that an unwounded man floating in a life jacket will be attacked by a shark Of the several hundred varieties of sharks only half a dozen have the dentures necessary for mastication, and of these not all have the disposition Of those that have few get the opportunity and of those few make the most of it

[1]The lecture notes were kindly contributed by Surgeon Commander S Jenkinson R N The correspondence from the *Sunday Express* is quoted by kind permission of the Editor of that publication

In [illegible] a lecture [illegible] for the benefit of air crews serving in the British Pacific Fleet. In this the shark danger is fully recognized and some useful hints are given for handling nuisances although it would appear that some of the hints might be [illegible] not to a blue hero than to an ordinary somewhat frightened individual.

EDITOR.

Much has been written on the subject of sharks and extreme views have been expressed by various people. One maintains that man has nothing to fear from sharks because the shark is such a timid and sulking creature that a harsh word or a shout slap will send him on his way with fear and terror in his heart. The other holds certain opinions that so ferocious and deadly is the shark that man is almost its only prey. As in most subjects the truth is found in the balance of the two extremes and it is advisable to have some idea as to the relative danger from sharks if forced to ditch in tropical waters.

There are some 80 different kinds of sharks known from Southern waters, but alarm need not be caused by this because less than a third of the 80 odd species is harmful to man, the vast majority being small and relatively insignificant creatures which feed on fishes, crabs and other such animals. The species most dangerous to man are the Mako, Tiger, White, Hammerhead, Grey Nurse, Ground and Blue shark.

During the years 1803 to 1950 there have been some 216 well authenticated shark attacks and tragedies around the Australian coast, yet strange as it may seem to the dwellers in southern climates there are many people in this world who agree that sharks do not attack human beings. Unfortunately cases of sharks attacking human beings in Australia are only too numerous, scarcely a year passing without its toll of tragedies and attacks.

When all is taken into consideration, the finding must be that sharks do on occasions attack human beings, yet we really have little to fear from sharks. Our chances of encountering species of sharks known to attack man are not great. However care should be taken to avoid unnecessary risks such as trailing hands or feet from the side of boats or going into the water when it is known sharks are near. If wounded, stop the flow of blood and get out of the water as soon as possible. Sharks sometimes ram against lifeboats and rafts and it is presumed that this is to scratch off sea lice rather than attempt to overturn the boat. Then nose is their most sensitive spot and a blow there may drive them away—kicking, slapping the water and shouting often have the effect of frightening away sharks that were contemplating attack.

Some sharks live and feed at considerable depths and much of the time most of them feed on the ocean bottom. Hungry sharks sometimes will follow fish up to the surface and into shallow waters along the shore. When a shark explores such waters it is likely to be dangerous.

Sharks seem to feed most actively during the night and particularly at dusk and dawn. After dark they show an increased tendency to move towards the surface and into shore waters.

A sharks natural food generally consists of a wide variety of relatively small marine animals such as fish squids crabs and shell fish A shark will feed which is fairly easy to get and may follow after stragglers from a school of fish and after prey which has been wounded or helpless It will follow a ship and eat garbage thrown overboard

Man is not a sharks natural prey but strange appearance probably attracts a shark There is evidence also that a group of children when bathing in the water will be safer than a single individual

The evidence is that a shark first locates food by smelling it Such things as garbage body waste and blood probably stimulate him to explore for food A shark is attracted by weak flutter movements and is repelled by a strong regular movement and certain loud strange noises A feeding shark especially when feeding in a school will use sight to locate and catch food

Fishermen have observed that a shark will swim under and around schools of fish The schools are indicated by many fine surface ripples by fish breaking the surface and by flights of feeding ocean birds When a gamefish is hooked it is often attacked vigorously by a shark Wherever fish are being caught sharks are likely to be found

Whilst a shark will investigate any large floating object it will not attack a man unless it is hungry Often the shark will swim away after investigating At other times it may approach and circle the object once or twice or it may swim and nudge the object with its snout

When swimming a shark cannot stop suddenly or turn quickly in a tight circle A good swimmer can avoid a single large shark by evasive action

A shark rarely jumps out of the water to take food however it may grasp its prey near the surface For this reason men on rafts are relatively safe unless they dangle their hands arms feet or legs in the water

Sharks in schools sometimes jump clear of the water and fall back with a splash Such actions possibly involve play or courtship they do not mean that the sharks are feeding hungry or vicious There is no need to be alarmed by jumping sharks

Protective Measures Against Sharks

In Water

Keep a sharp look out for sharks Keep your clothing and shoes on

If in a group threatened or attacked by a shark bunch together and form a tight circle face outwards so you can see an approaching shark If the sea is rough tie yourselves together Ward off attacks by kicking or stiff arming sharks

Stay as quiet as possible Float to save energy If necessary to swim use strong regular strokes do not make frantic irregular movements When swimming alone stay away from schools of fish

If a single shark threatens at short range

Use a strong regular swimming movement try feinting towards the shark—it may be scared away

Don't swim away directly in the shark's path face the shark and swim quickly to one side out maneuvre it

Kick or stiff arm a shark to push it away or grasp a side fin and swim with the shark until you can veer away from it

Make loud sounds by slapping the surface of the water with cupped hands use regular strokes

Use a knife in close quarters in a showdown

Use the shark repellent sparingly Save it especially for use in water at night

On a Raft

Do not fish from raft when sharks are in it Abandon hooked fish if shark approaches Do not clean fish into water when sharks are sighted

Do not throw wash overboard if sharks are around

Do not dangle hands or feet in water especially when fishing

If a shark threatens to attack or damage the raft discourage it by jabbing sensitive gills with oar (be careful not to break the oar and do not take round swings that may upset you)

Fire a pistol shot at the shark—it will frighten him away

Fish for sharks around and under the raft before going into the water or bathing

First Aid to Shark Victims

The first and most important measure is to stop bleeding quickly Help the victim into a raft or ashore as soon as possible Stop bleeding and treat for shock by giving morphine and fluids and by keeping victim warm and lying down

If in the water in a group form a ring around the victim and stop bleeding by using a tourniquet from an article of clothing

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TREATMENT OF NERVE-GAS CASUALTIES[1]

BY

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The nerve gases are a group of highly toxic chemical agents having a physiologic action like but much more prolonged than physostigmine They are readily absorbed through the respiratory tract the skin the eyes and the gastrointestinal tract Symptoms induced by incapacitating or lethal doses have a sudden onset and progress at a rapid rate

[1] Chemical Corps Medical Laboratories Army Chemical Center Md

Casualties contaminated with liquid nerve gases endanger unprotected personnel. Handlers of such patients should wear protective rubber aprons and gloves so long as there is any chance of skin or clothing contact with the liquid agent. Liquid nerve gases slowly penetrate even heavy rubber aprons and gloves; hence any liquid agent observed on the aprons or gloves should be washed off as soon as practicable and they should be changed for uncontaminated aprons and gloves after several hours of continuous use. A gas mask is essential as nerve gas vapours from such casualties will quickly incapacitate attendants.

Neither personnel nor equipment contaminated with liquid nerve gas should be brought into a hospital or an enclosed space until the liquid nerve gas has been completely eliminated. The nerve gases are soluble in water and may be removed by flooding with water in a shower. The clothing from such a casualty should be removed promptly and left outdoors along with such contaminated items as blankets, litters, and equipment. Ambulances and other equipment used for transporting casualties contaminated with persistent liquid nerve gas must be decontaminated.

The gas mask protects the eyes, respiratory tract, and mouth from nerve gases in either vapour or spray form. Ordinary clothing or impregnated permeable protective clothing afford little protection to the body against liquid nerve gas. Impermeable protective clothing and individual protective covers give better protection.

The nerve gases can poison food and water and the persistent types can render other supplies dangerous to handle.

Toxicity

The nerve gases are much more toxic by inhalation than other standard casualty producing chemical agents. Their lethality by liquid contamination of the eye or skin shows an even greater margin of danger and they are much more toxic by ingestion in food and water than other standard chemical agents. Exposure of unprotected men for a few minutes to barely recognizable concentrations of vapour will produce harassing symptoms with nausea and loss of efficiency for several days. Slightly greater exposure will produce severe harassment or mild incapacitation lasting a week or more. More severe but non lethal poisoning may require hospitalization for three weeks or longer. The absorption of nerve-gas vapours through the skin in a single exposure in ordinary field concentrations is not expected significantly to affect properly masked men. Deaths among properly masked men from vapour exposures probably will not occur, but the nerve gases are cumulative poisons and repeated exposures to extremely low concentration at intervals of twenty-four hours or less may cause the development of symptoms. Liquid nerve gas on the skin or clothing and especially in the eye is extremely dangerous.

Pharmacology

The nerve gases, like the newer insecticides parathion, tetra ethylpyrophosphate and hexa ethyltetraphosphate, exert their effects by depressing

the cholinesterase activity of the tissues below a functional threshold. The outstanding manifestations of acute poisoning by these agents resemble those produced by excessive stimulation of the para sympathetic nervous system, the central nervous system and somatic motor nerves. Therefore these substances should be classified as cholinergic agents.

The nerve gases are readily absorbed from the skin, mucous membranes, respiratory tract and the gastro intestinal tract. The signs and symptoms of poisoning by these agents include muscarine like, nicotine like and central nervous system effects. Important factors in determining the severity of the symptoms and rapidity with which they appear are the route of absorption, the concentration and the duration of the exposure. These signs and symptoms include anorexia, nausea, vomiting, abdominal cramps, tenesmus and diarrhœa. There is increased sweating, lacrimation and tightness of the chest with prolonged wheezing expiration suggestive of bronchoconstriction. The pupils become constricted and occasionally show inequality of size. There is increased fatigability associated with muscular weakness and twitching. The central nervous system effects include giddiness, insomnia, tension, anxiety, depression and changes in the electroencephalogram (EEG). With the appearance of the mildest symptoms a slight but definite diminution in the voltage of the EEG can be noted. When moderate symptoms are present the EEG may show irregularities in rhythm, variation in potential and intermittent bursts of slow waves similar to those seen in tracings from patients with epilepsy. Involuntary defecation, urination, pulmonary œdema with cyanosis and convulsions occur with a large dose of the nerve gas. The muscarine like effects and to a lesser extent the central effects are inhibited by atropine. The tolerance for atropine is greatly increased in subjects poisoned by the nerve gases.

There is a fairly narrow margin between the dose of the nerve gas that produces systemic symptoms and the dose that would probably be lethal. Following exposure to these agents there is increased susceptibility to their effects for twenty four hours after the disappearance of symptoms and the electroencephalographic changes may persist for days. Repeated exposures may produce cumulative effects. This is apparently a function of the dose of the nerve gas and the rate of restoration of the cholinesterase in the tissues.

The manner in which the body detoxifies and excretes the nerve gases is not definitely known. Such factors as the rate of inhibition of cholinesterase, the reversibility of the inhibition, the rate of restoration of cholinesterase in the various tissues and the rate of removal of the anticholinesterase compounds from the body appear to be important in the toxicity of these substances.

Symptoms

The symptoms described are based on animal experiments and on accidental human exposures to other anticholinesterase agents such as parathion which have similar effects.

Effects of vapour.—Vapour of an anticholinesterase agent acts directly on the smooth muscles of the eye and respiratory tract, producing miosis and

ciliary spasm in the eye and bronchoconstriction [illegible] in the respiratory tract and carried by the [illegible] les and to the nervous system where it causes w[illegible] Minimal exposure for a few minutes to trace concentra[illegible] pillary constriction lasting one to three days The [illegible] by the subject is some difficulty in seeing in [illegible] sons will have a mild intermittent bronchospasm [illegible] periods of a sensation of tightness in the chest lasting [illegible] Some will also have a nonhumid watery nasal discha[illegible] twelve to twenty four hours

Increasing this minimal exposure will [illegible] bronchoconstriction coming on very quickly in most subjects [illegible] in to several days The sense of tightness in the chest [illegible] thing are harassing but do not cause hypoxemia With this [illegible] all subjects will exhibit extreme miosis lasting several [illegible] ciliary spasm with attendant pain in the eyes radiating [illegible] to the occiput and some difficulty of accommodation Moderate photophobia is usually present and focusing the eyes on near objects is a painful experience Rhinorrhoea lasting several days is a minor complaint These patients suffer loss of efficiency but are not incapacitated

A further increase produces such aggravation of the above symptoms that extreme harassment or borderline incapacity result Under great military necessity most of these subjects *could* continue combat duties at reduced efficiency but many would probably be treated as mild casualties under less pressing circumstances

At larger doses the zone of true casualty production is reached Bronchoconstriction though intermittent and not complete is so continuous and breathing so difficult that the victim is unable to carry on his duties Mild hypoxemia may be present during bronchospasm and the subject may be confused panicky and fearful of suffocation Rhinorrhoea beginning bronchorrhoea and slight cough extreme miosis ciliary spasm pain of accommodation headache and photophobia add to his misery

With large doses all unprotected men will be casualties many with alarming symptoms This is still a small exposure by comparison with casualty producing doses of other standard chemical agents and doses of the vapour exceeding this will almost certainly be met in any modern chemical attack At this dosage the airway may be almost completely closed by bronchoconstriction and laryngeal spasm complicated by bronchorrhoea Up to this point the subject's muscular effort at respiration is powerful but very little ventilation of the lungs is accomplished As his anoxemia increases he becomes more confused and may fall exhausted and unconscious His muscles of respiration now fatigued and weakened gradually lessen their efforts The heart rate accelerated at first now weakens and slows and the blood pressure falls The airway tightly constricted until now relaxes slightly Muscular tremors develop followed by fibrillary twitching and often by occasional clonic-tonic convulsions caused by the combined effects of anoxia

and the [illegible] gas on the central [illegible] of respiration [illegible] complete at this dosage and the subject retains enough muscular function to ventilate his lungs through his gradually relaxing airway and thus [illegible] the anoxia

Meanwhile he suffers many of the classical symptoms of muscarine poisoning salivation diarrhoea excessive glandular secretions into the intestine with hypermotility nausea vomiting abdominal cramps watery diarrhoea and possibly involuntary evacuation of urine and faeces Miosis ciliary spasm photophobia and headache are severe At several times the severe casualty dose The lethal range is reached The clinical findings in the fatal case are similar to those in the severe casualty but increased in tempo and severity The initial blocking of the airway is virtually complete and extreme anoxia collapse and unconsciousness come on more quickly On collapse the paralysis of respiration is complete and despite relaxation of the airway spontaneous respiration is impossible Clonic-tonic convulsions are a prominent terminal feature and is followed by generalized flaccid paralysis The bradycardia is extreme often resulting in a sudden and complete arrest of heart action which may be rather a temporary or a terminal event Massive salivation and incontinence of urine and feces are the rule

Effects of Liquid —Liquid anticholinesterase agents are absorbed rapidly from the eye and mucosa of the nose or mouth by which routes they are extremely toxic The time element from contamination of these areas to the initial development of systemic symptoms is one or two minutes and death follows rapidly in fatal cases Absorption through the skin from direct skin contamination or from liquid contamination of the clothing is a somewhat slower process and larger doses are required to produce the same degree of poisoning The time from contamination to initial systemic symptoms is however still relatively short—from five to twenty minutes depending on the type of agent the magnitude and anatomic location of the contamination and the physical condition of the skin Usually the first sign to appear following skin contamination is localized muscular twitching at the site of contamination Then is soon followed by bronchoconstriction and salivation then mental confusion and excitement then generalized clonic-tonic convulsions If the eyes have been protected from direct access of the liquid agent and its vapour miosis does not appear until the poisoning is well advanced The clinical course of the poisoning is otherwise much the same as that caused by the inhalation of nerve gas vapour

Psychophysiologic Effects —The survivors of anticholinesterase poisoning may exhibit mental effects for several days following exposure In patients with mild exposure there may be giddiness tension anxiety jitterness insomnia and excessive dreaming With more severe exposure there may be withdrawal depression restlessness tremor emotional lability and irritional behaviour The EEG may show intermittent burst of slow waves (from 4 to 6 per second) of marked high voltage especially following hyperventilation Military commanders and medical officers must give serious consideration to

the possibility of prime [illegible] combat personnel in [illegible] is attacked [illegible] take all possible steps to prevent or control it.

Diagnosis

The diagnosis is made from the symptoms. Unprotected personnel exposed to vapour or aerosol first experience a running nose, a sense of tightness in the chest and exhibit miosis. Marked miosis, personnel in the disappearance of anticholinesterase agent from liquid contaminations of the skin, or if the first experience local muscular fasciculations followed by [illegible] Ingestion of contaminated food or water first induces salivation, nausea and abdominal cramps which may be followed by vomiting and diarrhoea. Marked salivation, bradycardia, hypotension, bronchoconstriction with cyanosis, muscular twitching and convulsions are diagnostic signs of importance in the more severe cases.

First Aid and Emergency Treatment

Severely wounded men or persons suspected poisoned with an anticholinesterase agent may be incapacitated and incapable of administering self aid. Such patients must have help from other men, other medical personnel in adjusting gas masks in decontamination and in the administration of atropine. Liquid contaminations on the skin must be removed immediately by flooding with water or by swabbing the contaminated skin with cotton or cloth pledgets which are well moistened with a suitable fluid. Alkaline fluids are much more effective than plain water. Any of the following fluids is satisfactory: (1) a slurry of 1 part of bicarb in 3 parts of water by volume; (2) a 1 to 10 per cent solution of sodium carbonate; (3) a [illegible] per cent solution of ammonium hydroxide; (4) a 3 per cent solution of sodium hypochlorite. If none of these is available, wash the contaminated skin with [illegible] and water after flushing with water. Clothing and equipment contaminated with liquid nerve gas must be removed from casualties as quickly as possible and the casualty moved out of the contaminated area.

Injections of 2 mg of atropine sulfate by non professional personnel may be given at three minute intervals if necessary up to a total of [illegible] If the patient has convulsions but is not [illegible] the [illegible] must be given promptly in use injection.

If respiration has ceased there is no hope of survival unless artificial method of resuscitation can be instituted immediately. Because the nerve gases produce a peripheral flaccid paralysis of the muscles of respiration, the chest is collapsed and there is little expiratory resistance. Because of flaccid paralysis there is no elastic recoil when the chest is compressed and released. Effective methods of artificial respiration, such as the Holger Nielsen method or the hip lift prone pressure method, is devoid of difficulties and [illegible] assist both inspiration and expiration.

If the contaminated area the victim's [illegible] should be kept covered properly adjusted before artificial respiration is started. In the Holger Nielsen method the patient is placed in a prone position face to [illegible] with hands under the head. The operator kneels at the patient's head, grasps the arms near the elbows and pulls the elbows upward and forward

[illegible] compressing the chest and causing active expiration. He then [illegible] releasing passive expiration. He then places his [illegible] under the lower borders of the scapulas and exerts [illegible] leaning in active expiration. The pressure is then [illegible] active inspiration. This cycle should be repeated from ten to twelve times a minute.

In the Schafer Emerson Ivy (hip lift prone pressure) method the mask is adjusted as before if an unconscious area and the victim is placed in a prone position with his hands under his head and the neck hyperextended. The operator kneels over the patient straddling his thighs. The thighs are grasped just below the hip joints at the pubis and the hips are lifted from 10 to 12 inches and then lowered to the ground. This procedure is alternated with the Schafer Emerson Ivy. Such a cycle is repeated from ten to twelve times a minute.

A resuscitator which supplies air drawn from the atmosphere cannot be used in the contaminated area. A necessary modification is the inclusion of a gas mask canister in the air intake channel. Portable bellows type resuscitators so modified can be used for this purpose but the weight of such items (about 7 lb each) precludes the possibility that more than a few of them can actually be transported to and used on casualties during combat.

Treatment

The treatment of anticholinesterase poisoning is based on blocking the effects of accumulated acetylcholine by giving atropine and on appropriate symptomatic therapy. In patients with mild exposure the intermittent bronchospasm is readily relieved with small doses of atropine.

Patients with moderately severe exposure suffering from bronchospasm, dyspnea, cyanosis, bradycardia, and hypotension should be given 2 mg of atropine (intravenously if possible, otherwise intramuscularly) every two to three minutes until these symptoms are relieved and such signs of atropinization as dryness of the mouth appear. It is amazing how much atropine some of these patients tolerate without showing any signs of atropinization. Smaller parenteral or oral doses of atropine must be administered every few hours thereafter for at least several days to maintain atropinization because the poisoning is far more persistent than the atropine effects. Some of these patients will show muscular twitching or clonicotonic convulsions. The convulsions if not adequately controlled by atropine may be controlled by the intravenous or intramuscular injection of 1 gramme of trimethadione in a 10 per cent solution every fifteen minutes up to a maximum of 3 grammes. This drug has the advantage of not depressing respiration. Such barbiturates as phenobarbital sodium and thiopental sodium may also be used for the control of convulsions but they have the disadvantage of depressing respiration. Apprehension in a patient not receiving a barbiturate for the control of convulsions may be allayed by 0.1 gramme of pentobarbital sodium by mouth repeated in thirty minutes and then every 6 hours if necessary. Smoking must be avoided in the early stages of treatment because it aggravates the respiratory and gastro intestinal symptoms of nerve gas poisoning.

Patients with severe exposure suffering from profound [illegible] intermittent almost continuous convulsions followed by [illegible] paralysis present a very grave and difficult problem Atropine is dangerous [illegible] patients with severe and prolonged anoxia The sudden release of the [illegible] control with the stimulant increase in work by the heart muscle [illegible] of severe and prolonged anoxia may lead immediately to ventricular fibrillation and death The administration of atropine should be delayed in this condition until the lungs have been ventilated and the heart has made some recovery from anoxia Because the chest is collapsed by flaccid paralysis of the muscles of respiration a positive pressure method of resuscitation must be used to ventilate the lungs Any available type of powered respirator (e g iron lung) is also satisfactory for this purpose Resuscitation may be needed for an hour or more before spontaneous respiration is restored As soon as the anoxia is overcome atropine should be given intravenously or intramuscularly in full dosage until signs of atropinization appear Maintenance doses of atropine must be given orally or parenterally for several days thereafter because the effects of nerve gas poisoning are much more persistent than atropine effects Convulsions are controlled as described above

Systemically administered atropine does not relieve the ocular effects of nerve gases An ophthalmic ointment of 2 per cent homatropine hydrobromide for mild exposure or of 1 per cent atropine sulfate for severe exposure is necessary until good mydriasis is obtained This usually relieves miosis eye pain and headache promptly but the procedure may have to be repeated several times as the miosis frequently recurs

The dosage of atropine recommended (2 mg) is about four times the usually accepted dose Care should be taken to avoid atropine poisoning especially in the milder forms of nerve gas poisoning

Summary of First Aid and Treatment

Life saving Measures

(1) Termination of exposure masking casualty removing from contaminated area decontaminating skin surfaces exposed to contamination by removal of contaminated clothing and equipment

(2) Atropine administration—given as soon as possible after poisoning and repeated as necessary

(3) Artificial respiration—in paralysed casualties if practicable

Symptomatic Treatment

(1) Anticonvulsive drugs—trimethadione or thiopental sodium to control convulsions not controlled by atropine

(2) Sedative drugs pentobarbital sodium to allay apprehension

(3) Mydriatics—atropine or homatropine to overcome miosis

This article is reprinted by kind permission of the Authors and the Editor of the *United States Medical Journal* November 1951

Details of treatment etc given in this article may not agree precisely with current teaching in the United Kingdom —Editor

COMPARISONS OF THE NAVAL, MILITARY, R A F AND CIVIL MEDICAL SERVICES WITH PRIVATE PRACTICE

Part XII

(Conclusion)

BY

Surgeon Captain R C MUNDAY, *C B* M R C S , L R C P , R N (Rtd)

My Tribunal sat for a month in London work began at 10 a m and finished between 3 30 and 4 30 p m depending on the case or difficulties of the appeals Members consisted of a barrister as chairman a doctor and an ex Service man generally a disabled pensioner selected from a panel nominated lists belonging to any of the three Services The idea underlying the composition of each Tribunal was that the barrister would be an umpire or referee between the hard hearted doctor who would be inclined to think the appellant had been fairly treated by the Ministry of Pensions and would vote for dismissing the appeal whilst the ex Service lay member would vote for his comrade in arms but my experience of five years on the Tribunals was that if there were any doubt or difficulty about a decision the doctor would be found on the side of the appellant and his comrade would be sceptical of his claims

The day before each session all members of the Tribunal would be furnished with a copy of each appellant s medical history from enlistment until discharge obtained from Service and Ministry of Pensions records Thus one would see the grounds on which the Ministry rejected the appellant s claims and could verify or question a man s statements The appellants would in most cases be defended by a representative of the British Legion almost always a great help and very tactful both to his client and the Tribunal Occasionally the man s medical attendant would appear to support his claim or he would employ a barrister or solicitor to plead for him

After a month in London my particular Tribunal was moved to Birmingham for a month or six weeks then back to London for a fortnight followed by a fortnight s stay in Manchester

The Tribunal never sat on Saturdays which were utilized as days for visiting appellants who all to travel to the Tribunal cases in need of hospitals or nursing by District cases such as my patient whose case was the *fons et origo* of his appeal and

After my first year as a member of a Tribunal whose duty was simply to advise from the chairman of the Ministry that a man was entitled or not to

[illegible] and allow the [illegible] appeal [illegible] [illegible] the [illegible] [illegible] [illegible] the Ministry [illegible] [illegible] [illegible] and [illegible] pensions [illegible] in proportion [illegible] their disability assessed in terms of percentages

These new Tribunals were composed of two [illegible] medical officers and an ex Service man from non commissioned [illegible] The barrister was excluded from the Tribunals and the senior of the two doctors in respect of service on the Tribunals was appointed Chairman Appeals could be allowed and the percentage of disability increased remain unchanged or in rare cases if we thought the Ministry's assessment too high we could cut it down Such a decision of course caused amazement and indignation on the appellants side of the table and I well remember the case of a militant Irishman who had served a few months in Ireland and had never heard a shot in anger during the War 1914–18 but had had previous service in the Boer War This gentleman who suffered from a slight old hemiplegia had been convincingly diagnosed by the Ministry as a case of tertiary syphilis well on the way to a good if not complete recovery We considered that the disability was not due to the Service disallowed the appeal and stopped the pension but as the man had brought his wife with him to assist him in his appeal we could not ask her to withdraw and we shrank in horror from explaining the nature and cause of venereal disease for she was evidently an even more pugnacious person than the husband, and just as eloquent I bore their furious combined tirade in patience until the man put his hand in his hip pocket and I heard a metallic sound Then we all thought we should hear a shot fired in anger but to our relief he produced a handful of old war medals and flashing them on the table told me as Chairman to take the things and dispose of them It was not until I had told my secretary to telephone for the police and an enormous Arm of the Law with a gentle soothing manner had arrived that the angry pair were induced to gather up the medals and retire

One of the pleasant things about this delightful appointment was the very long vacation we were granted in August and September besides a generous holiday at Christmas and Easter I used part of the long vacation to polish up my clinical experience by serving as locum to my good friend at Malvern I went there every year for five years In the late summer months sickness in the town and surrounding villages diminished a good deal and enabled me to play a lot of golf on the adjoining well known nine hole course where I often met and played with Cambridge Blues now possessing household names where the game is properly appreciated

As time went on the number of Tribunals was diminished because we were gradually reducing the number of appellants until very few were left Doctors who had been longest on the Tribunal Service were the last to go When my time came I had sold my house at Paignton and migrated to my home town in its suburb where I contemplated a life of locum tenency punctuated by periods of golf and gardening First I inflicted myself on the White Star Line to see how I liked life at sea in a luxurious mail steamer

I was [illegible] one of the biggest ex German liners [illegible] at Plymouth [illegible] New York to Hamburg Half the crew were Germans [illegible] I had a senior British sick berth steward and a German assistant It was the same proportion of British and German staff who waited on us in the first class saloon and attended to our cabins

The buildings and docks of Hamburg seemed to me almost uninjured by the 1914–18 War Before sailing on the return journey to Plymouth I received an offer from the A D M S of the Plymouth district to join the R A M C in a civil capacity as Ophthalmic Specialist It appeared that I had been recommended to him by a local ophthalmic specialist who was too busy to accept the job himself He knew I was at a loose end I explained to the A D M S that my present knowledge of ophthalmology was that of a competent G P and I could not accept the appointment unless he could wait for me to do a three-month course He replied that the vacancy was for an ophthalmic specialist but that if I would do recruiting and general practice he would get the naval hospital to see the ophthalmic cases I gladly accepted and asked the White Star Line to release me at Plymouth which they kindly did In the meantime I was confronted on the voyage home with a first class passenger in the throes of early premature labour Fortunately one of the stewardesses was a midwife and after doing all I could to avert labour I supposed intended the delivery of a stillborn fœtus I got the Captain to send a wireless message for an ambulance to take the lady to hospital at Plymouth

I found myself on the staff of the Plymouth Military Hospital My duties were to attend every day in the medical wards during the forenoon and to be on duty for twenty four hours in charge of the whole hospital once every three or four days

After some months I was moved to the Citadel where I was very pleasantly occupied from 9 a m until about 10 a m in disposing of the sick not needing hospital treatment After that I examined all the recruits presented to me by the Recruiting Officer for the S W District That done I would tour the barracks cookhouses latrines stables bathrooms and wash places recording in my journal my observations and recommendations This book was presented to the Colonel for his remarks and action It was periodically sent to the A D M S for his remarks and recommendations and to the G O C for ultimate decision if there were any disagreement between the Colonel commanding the Citadel and myself but I do not remember that at any time I could not persuade him to accept the medical point of view

I think that of all my duties at the Citadel that which I liked best was my attendance on the women and children in married quarters or homes adjoining the barracks It was all good training for private practice as a locum tenens and enlarged my experience both professionally and as an observer of human nature

As soon as it became known that I liked giving anæsthetics I was in constant request at the Military Hospital and at the Military Families Hospital which admitted soldiers wives for their confinements and had separate general wards for cases too ill to be treated in quarters or in their

homes The only restriction was that the husband of a case for admission must be on the strength of the regiment

One lovely summer afternoon I was assisting as host at the annual garden party given by the Royal Regiment of Artillery at the Citadel when I saw one of the guests whose face I knew but not his name or personality My wife could throw no light on the subject and my duties as one of the hosts occupied me until the Colonel came to me with the disturbing news that one of the guests had been taken suddenly faint and removed to the strawberry and cream tent would I bring him round as quickly as possible and get him out of the tent as the time for strawberries and cream was fast approaching One glance at the patient told me that he was suffering from severe shock and a few questions revealed a history resembling that of peptic ulcer I told him I was taking him in an ambulance straight to the Military Hospital for immediate operation He vehemently asserted that he proposed to drive himself and his wife home to Yelverton eight miles away and send for his own doctor Fortunately his wife prevailed on him to do as I wished I warned the hospital to prepare for laparotomy and in about half an hour we had him on the table The efficient young surgical specialist dealt with a ruptured duodenal ulcer and removed a diseased appendix and a large number of gall-stones

The patient was a retired Major about 60 years old and a fellow member of the Yelverton Golf Club It was his face that I knew but could not place He made a very good recovery and we played much golf together afterwards

My medical orderly at the Citadel was an admirable person whose only drawback was lack of ambition to rise from the rank of Gunner He most certainly had the ability education and the necessary splendid physique to rise to almost any rank if he had wished to but he knew that he could serve as medical orderly as long as he lived at the Citadel He had a little house in Plymouth and a wife and family He had alone plenty of Foreign Service and was more than content to remain where he was I believe he is there to this very day twenty years after my time After strenuous efforts I obtained the rank of Corporal for him the reason for this promotion was I alleged, to secure his maintenance of discipline with recruits and patients but his voice, looks and personality never failed to impress those few people who did not obey him out of pure affection

I know he and I became great friends and he gave me a very good education in all military habits and customs He thoroughly understood the principles of asepsis and was to be relied on to prepare men for inoculation T A B etc and vaccination with safety I have inoculated 80 men in an hour or so with his assistance and never a single untoward result

In the matter of inoculation for the prevention of the common cold and influenza the War Office would not make it compulsory but called upon medical officers to persuade officers to set a good example to their men by volunteering to submit to inoculation I did what I could but succeeded in inducing only one hero to lead the way Unfortunately he developed the worst cold very shortly afterwards and no one followed his noble example

I did my [illegible] at the Citadel for the whole of my eight years with the Army but [illegible] out to other camps of regiments The Duke of Wellington's [illegible] R A S C at Raglan and Granby Barracks and afterwards to the [illegible] and Suffolks at Crownhill Except for recruiting which was conducted only at the Citadel any duties at the other Barracks were the same and I found almost the same good intelligent and loyal assistance from the orderlies allotted to the Medical Inspection Room at each regiment They were well picked men and all old soldiers who had volunteered for and liked the job The attractions were a little place of their own interesting work avoidance of routine drills which constant repetition had rendered boring One found the same sort of thing in the Navy even to the extent of the popularity of the office of Captain of the Head I remember only one man amongst many Captains of the Head who had to appear at the Petty Sessions on the Quarter Deck charged with Taking no interest in his work "

At long last the time arrived when the War Office became aware that I was many years over the official maximum age for my job as Medical Officer in Charge of troops but the local A D M S suggested that if I were termed Civilian Medical Officer there was no restriction as to my age My pay and my duties would be as before I saw no objections as I preferred living continuously at my own home and doing a pleasant morning's work to the spasmodic violent activities of a busy locum far from home and family

Eventually however the shortage of retired R A M C officers willing to come back to the work of regimental Medical Officer in Charge of troops came to an end and I had to make way to the comparatively younger generation

I was still very unwilling to give up doctoring and yet felt no desire to buy or set up in practice on my own It seemed to me too much like slavery especially for a man between 60 and 70 years of age So I told my London agents I was again available for locums

I think it was in the Autumn of 1938 that I became aware of quiet preparations for the Second World War I was visited at St Fady Cornwall while doing a locum by the Regional Medical Officer coming to inspect the panel cards and discuss panel patients with panel doctors We had a pleasant talk at the end of which he asked me what I proposed to do in the event of war I said I should offer my services in turn to the Navy Army and Air Force but did not expect that I should be wanted at my age nearly 70 He then asked if I would be willing to serve on a recruiting medical board at Plymouth I understood it was an unpaid job but I jumped at it saying it would fit in with my long experience of all three Services and of Recruiting He said I should hear more about it before long and in May 1939 while on locum in the country near Bath I had another visit this time from the Regional Recruiting Medical Officer of the South West complete with my appointment as Chairman of the Plymouth Board and new recruiting regulations for the guidance of the members of the Board

I sat up after he had gone until 2 a m writing to members of the Board and appointing them in rotation for sessions to begin the medical examination of young men now being called up for Service in case of an emergency

[illegible] until the actual outbreak of war the [illegible] of Boards [illegible] one hundred and [illegible] but during the [illegible] with two sessions [illegible] usually three hours each day for some months and I had to wire to the doctor whose work I was doing to return at once. His receptionist did not realize the implications and demands of actual war and I had some difficulty in explaining the situation to him not however to his master who had seen active service in the 1914–18 war.

The emolument for Chairman of Boards was two and a half guineas for each of the first five sessions in one week and two guineas for each of the sessions after those. The members were paid two guineas a session.

I held the appointment long after I had reached and passed the age limit of I think 75. In fact I was not asked until I had completed seven years of some of the most pleasant work I have ever done.

In a small number of cases men would appeal against our decisions either because they considered they were too highly graded or were aggrieved and disappointed at being considered unfit. Some men concealed the fact that they were epileptics or had been certified as insane and I am not aware of any means of preventing this deception in every case. Others would pretend defective vision or exaggerate it but these were detected by the ophthalmic specialists attached to the Board for reference. Similarly I referred doubtful E.N.T. cases to the appropriate specialist.

As regards the Women's Services Boards were formed consisting of myself as Chairman with a male and female colleague my function was to supervise generally the proceedings and to be ready to give advice to either of my colleagues if requested.

The policy of the authorities as to procedure in case of an air raid while the Board was in session varied from time to time. At first it was left to my discretion and I used to inform examiners examinees and clerks that they were at liberty to take cover in the basement of our substantial building or not just as they thought fit but that I should carry on as long as I had enough examiners examinees and clerks.

One or two directors out of my 25 colleagues elected to take cover and all the clerks but in every raid the examinees wished to carry on.

Later on I received instructions to close the session during a raid. Later still the decision was left to my discretion. Although we had to move from damaged buildings four times we never cancelled a session or sustained a casualty from the raids the vast majority of which were nocturnal.

In 1946 it was delicately intimated to me that I had long passed the proper age for superannuation and I withdrew celebrating my departure by a luncheon party to all my colleagues at which they presented me with one of my proudest possessions a silver cigarette case on which the names of all my dear colleagues are inscribed. The speeches were numerous and eloquent and I still blush to think of the kind things said to me. Since then I have spent most of my time in my garden growing vegetables and feeding fowls but there are still some deluded friends who think I am a good doctor and persist in asking me to do a surgery for them or visit a few patients and this gives

me [illegible] It was in 1880 that I began to practise medicine [illegible] be found practising when I have completed 60 years of it

If I may give an opinion as to the respective merits of the Navy Army, Air Force Merchant Services and Civilian practice I would say if you have my luck as to appointments take the Navy then the Army but leave either in time for Civil practice if available Unless you are very lucky in the Navy I think the Army will give you the best experiences of your profession It seems to me that the new National Medical Service urgently needs much amendment and until it is properly amended I would get into the Army or Navy if unmarried and fond of the sea

Try to find your own faults and to discover the good in your neighbour

I really quite enjoyed the work I did in all my numerous locums which lasted sometimes as long as 3 months but more often 5 weeks by far the majority were practices which I had taken care of on several previous occasions where I was well known and knew the people and the neighbouring practitioners.

When I was a little overworked and doing a lot of night work I was supported by the knowledge that in a few weeks at the most I could go home where there were no calls or night bells and I would be free for as long as I cared to be and to do what I liked when I liked So I am glad I did not go in for General Practice fond as I am of my profession

As for the Merchant Service I would advise one lengthy voyage only preferably to the Far East and not even that if one is to enter one of the fighting services

I do not recommend the Colonial Medical Service too much tropical climate and too many tropical people breed nostalgia if not ill health

Clinical Notes and Cases

ABDOMINAL BLOATING

BY

Surgeon Commander W. V. BEACH, R.N.

Case History.—Naval Rating, aged 38.

[illegible] serving with the [illegible] Fleet [illegible] reported [illegible] progressive increase in the size of his abdomen [illegible]

His previous health had been good and there had been no illness [illegible] in childhood. He stated that he had been getting fat for about two years [illegible] that [illegible] had been in place in the past [illegible] relatively rapid increase in the size of his belly which had been [illegible] His abdominal girth had increased from 40 in. to 46 in.

The enlargement had been accompanied by a gradual increase [illegible] on exertion. He had not noticed any swelling of the feet. His appetite was good but after meals he felt very "blown out." Only a normal amount of flatus was passed and there was no eructation. As he was at this time serving in the [illegible] he had suffered from the usual attacks of diarrhoea which responded rapidly to treatment. He had never at any time suffered from [illegible] bacillary dysentery.

His general condition on admission to hospital in Hong Kong was excellent. He was a well-nourished man, sturdily built and with a rather plethoric complexion, but there was only a scanty supply of body hair, the axillae being almost free. There were no abnormally palpable lymph glands. The abdomen was very protuberant, the maximum girth in recumbency being 46 in. It was dull to percussion all over except for a few small areas of resonance mainly in the epigastrium and in both iliac fossae. These appeared to move with posture. There was [illegible] fat. [illegible] and flattened it could be depressed with pressure but it [illegible] again [illegible] There was no obvious enlargement of the superficial epigastric veins. Deep palpation was extremely difficult due to [illegible] but no mass could be felt and there was no tenderness. Straight X-ray [illegible]

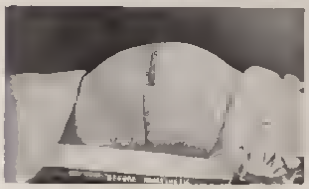
On rectal examination there [illegible] The prostate was slightly enlarged and firm. There was no abnormality to be palpated in the [illegible] There was a small [illegible] expansion [illegible] posterior diameter of the chest. Percussion [illegible] were normal. X-ray showed no abnormality. No enlargement [illegible] was visible. The heart was normal in size and position and the sounds were normal on auscultation. Pulse was regular at the rate of 78 per minute. B.P. 150/85. The central nervous system was normal in all respects. Urinalysis was normal. An intravenous pyelogram showed normal kidneys and ureters with average secretion on both sides.

Blood Count		*Differential*	
Red blood cells	5,570,000 per c.mm.	Polymorphs	61 per cent
Leucocytes	13,700 per c.mm.	Lymphocytes	35 per cent
Hemoglobin	106 per cent	Monocytes	1 per cent
Colour index	1·0	Eosinophils	1 per cent
		Basophils	2 per cent

[illegible] Barium meal [illegible]

[illegible] patient normally [illegible] not suggestive of tumour [illegible] [illegible] follows. No abnormal [illegible]

[illegible]



[illegible]

[illegible]

DISCUSSION

The condition of [illegible] very little literature on the [illegible]. Probably the most detailed [illegible] that of Alvarez (1943 [illegible]) [illegible] other reports by Bargen, Hurst and Weir Mitchell. It is [illegible] that despite the paucity of the literature Alvarez saw 74 cases. Many of the features however which he described were not present in this case and some of the findings could not be substantiated. To mention but a few of the [illegible] pain was never a feature of this case and posture produced no [illegible] the bloating. The distension was stated to occur in attacks while [illegible] it was constant and unremitting. The patient was a male and [illegible] while the vast majority of cases are stated to occur in [illegible] women.

Frank (1945) describes a case [illegible] the belly on recumbency and the [illegible] attacks which could be set off by some trigger action such as [illegible]. Leidt (1947) quotes [illegible] authors as having described the condition but gives few details.

The outstanding feature of all these cases appeared to be the strong psychiatric element which was present and the only effective treatment was hypnosis or psychotherapy.

In the case described these features were noticeably absent. Attempts at treatment along these lines were without any benefit and in fact merely annoyed this most stable Stoker.

In contrast to the case described the majority of cases recorded appear to be a paroxysmal bloating of psychiatric origin, whereas here the picture was that of a physical disability due to muscular dysfunction which could be abolished only by anaesthesia to the depth of muscular relaxation.

[illegible] been seen by several consultants both before and since the [illegible] and their expressed unfamiliarity with the condition [illegible] might be of interest to publish the case

Follow[illegible] the article was written shows that the lady now measures 46 in [illegible] He is now demobilized and suffers no disability in his work as [illegible]

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[illegible] (1945) *Royal Medical Hospital Clinical Reports* 26 68
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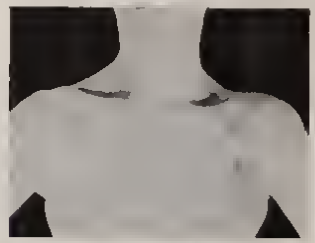
CONGENITAL ABSENCE OF THE PECTORALIS MAJOR

BY

Surgeon Commander J W L CROSFILL, R N

Congenital absence of the pectoralis major is a comparatively rare condition yet 3 cases within twelve months have been seen at R N Hospital Chatham

Anatomically the muscle arises from two heads from the clavicle and from the sternum and adjacent thoracic cage The abnormality usually seen is absence of the sternocostal fibres only but the entire muscle may be missing Absence of the clavicular head alone does not occur in man The developmental defect is not confined to pectoralis major adjacent muscles may be missing or aberrant P minor in particular Neither is the defect confined to muscle tissue The breast structures on the affected side may also be absent or poorly developed whilst axillary hair and sweating in the axilla and adjacent anterior chest wall may be deficient or absent Herniation of the lung is a result of



[illegible] Sl[illegible] [illegible] fatter

[illegible]

FIG. 3—C[illegible] Note the [illegible] of the [illegible]

roughing is [illegible] arising from defective development of the thoracic cage

The condition is non familial and the recorded cases show a preponderance for males and for a unilateral distribution

The diagnosis can be made by inspection Due to the absence of fullness normally provided by the muscle belly and subcutaneous fat there is a flattening of the upper anterior and lateral chest wall which with well developed subjects presents a marked asymmetry As a result of their thin covering the ribs appear unduly prominent When the arms are at rest by the sides the nipple on the affected side is seen to be at a higher level than its opposite normal [illegible]

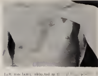


Fig. 4. Case 2. Left arm being abducted in th[illegible] [illegible] power

Fig. [illegible] A[illegible] resistance to show [illegible] the patient as in the others. Absence of left [illegible]

When both [illegible] above the head the difference in [illegible] becomes [illegible]. Similarly at rest the apex of the axilla [illegible] and no [illegible] V-shaped appearance. Reference to [illegible] illustrations will give a better idea of the alteration in the appearance than a verbal description.

When the [illegible] are contracted by the routine clinical methods the asymmetry in and around the axilla becomes accentuated. If P. minor is present it becomes plainly visible running up to the coracoid process. The clavicular portion of P. major stands out with undue prominence whilst the axilla and the area adjacent seem to be abnormally hollow. This appearance is due to the lack of fat.

When the arms are held in the "surrender" position and are pressed downwards and inwards against resistance a fold of skin is raised and gives

[illegible] test with [illegible] the [illegible] physical [illegible]

[illegible] trophy of the [illegible] clinically

the impression both visually and to palpation of [illegible] under the skin This band tends to have a crescentic [illegible] directed upwards and inwards When displaced maximally [illegible] from just above the nipple to the junction of the upper and middle third of the arm but it varies appreciably with the position and direction of thrust of the arm In the taut state it can be traced by palpation much further down the arm than it can be seen almost as far as the internal condyle Its thoracic end fades away indeterminately It cannot be detected by inspection or

[illegible] I consider this [illegible] the [illegible] normal [illegible]

[illegible] appearances [illegible] shadowing [illegible] Where the [illegible] robust physique [illegible] will cover [illegible] the normal side the [illegible] appearances are [illegible] classions In the very thin subject the differences in the lung field appearances may be slight but the unilateral anomaly is easily detected If opportunity was taken to obtain bronchograms in one subject to see whether [illegible] any lung agenesis was present The findings were normal

Although P [illegible] is a powerful muscle its absence does not seemingly interfere with physical capacity to make [illegible] athletic habitus Amongst the recorded cases are a German student duellist swordsman arm was that on the affected side a cricketer hockey swimmer [illegible] hunter and a putting the shot exponent The three naval cases reported had no spontaneous complaints directly referable to their defect and all were unaware of their having any such defect The finding was an accidental one in Cases I and II

Case III was sent to hospital because he had become sensitive about the size of his left breast (i e the normal breast) and the comments of his messmates It was noted that his pectoralis on the right side were absent and that the phantom hand interfered with full movement of his arm The hand was divided by tenotomy technique It was afterwards impossible to demonstrate this band

I am indebted to Surgeon Commander H L Cleave *OBE* F R C S for drawing my attention to Case III to S B C P O H Dempsey for the photography, to Surgeon Lieutenant I M Cliff and P P Phillips for the bronchography and to Surgeon Rear Admiral K A Ingleby Mackenzie for permission to publish this report

A CASE OF MURINE (FLEA) TYPHUS

BY

Surgeon Lieutenant C. D. PETERS, R.N.V.R.

MURINE typhus occurs throughout Malaya as an endemic disease. In 1951 the Municipality of Singapore reported 16 cases of mite typhus and only 1 (the present case included) of murine typhus. These figures may be taken as referring to the Colony of Singapore as a whole (population [illegible]) since the majority of typhus cases whether in rural or municipal areas are likely to be treated as in-patients in hospitals situated in the municipal area. Murine typhus is not at the present time a common disease and the following case history records the recognition and diagnosis of such a case for the first time at the R.N. Asian Hospital, H.M. Dockyard, Singapore.

Case History.—A South Indian Tamil boilermaker, aged 44.

This patient first attended the out-patient department on 10th January, 1951. He complained of fever, generalized body pains and constipation for three days. General examination revealed no physical signs beyond a temperature of 101° F. The patient took two days' sick leave but following this and being no better he consented to admission to hospital.

On Examination.—His temperature was 104° F., pulse 98 per minute, respiration 20 per minute. There was no sweating, the tongue was clean and there was no coryza or sore throat. Scattered rhonchi were audible in the chest although cough was not one of the symptoms complained of. The cardiovascular system and the abdomen were clinically normal. There was no rash nor any palpably enlarged lymphatic nodes.

The following investigations were performed:

Chest X-ray	Normal	Blood	White cell count total 10,400 per c.mm.
Urine	A few pus cells		Polymorphs 71 per cent.
			Lymphocytes 25 per cent.
		Blood	Repeated examinations for malarial parasites negative.

During the first fourteen days as an in-patient the clinical picture remained much the same. The temperature graph was mainly remittent, occasionally intermittent, hovering between 102 and 103° F. [illegible] The pulse rate remained proportionately low, being never above 115 per minute and usually between 90 and 100 per minute. Throughout this period symptomatic treatment only was given, enemata being required to relieve the constipation.

On the 19th January the patient complained of severe frontal headache. The blood white cell count and urine analysis were as before, and repeated urine and faeces cultures were sterile for pathogens. Continued searching for malarial parasites was negative.

On 20th January severe generalized headache was the main symptom. The tip of the spleen was now just palpable [illegible] and was tender. [illegible] the patient [illegible] The cerebrospinal fluid obtained was [illegible] normal in appearance and pressure [illegible] cells per c.mm., protein 40 mg. per cent. [illegible] and culture sterile.

On the 24th January, despite [illegible] the temperature [illegible] The patient [illegible] the spleen [illegible] palpable. Blood [illegible] as follows: Hb. 70 per cent. W.B.C. total

5,000 [illegible] Kyphos 38 [illegible] Blood halo [illegible] and feces cultures sterile [illegible] chest X ray [illegible] selected typhoid Widal [illegible] agglutination tests [illegible] and are set out in the [illegible]

On 2nd [illegible] patient was greatly improved [illegible] upon conversation with [illegible] There was no complaint [illegible] with temperature or pulse rates. Stool [illegible] recorded until 2nd February [illegible] Each time ferrel sulphate was prescribed [illegible] a Agglutination [illegible] taken on four further occasions (see chart [illegible] He was discharged from hospital [illegible] 5th February four weeks after the [illegible] He returned to duty [illegible] week later

Widal Agglutination and Kahn Results

	Titre				
	24 1 51	30 1 51	11 2 51	17 2 51	23 2 51
Typhoid H	1 240	1 640	1 240	1 240	—
Paratyphoid H	1 80	1 320	Neg	Neg	—
Salmonella H	1 120	1 640	Neg	Neg	—
Proteus OX19	1 480	1 960	1 960	1 480	1 60
Proteus OXK	Neg	Neg	Neg	Neg	Neg
Proteus OX2	Neg	Neg	Neg	Neg	Neg
Kahn		2+	±		Neg

Comment

A diagnosis of murine typhus is made when there is a history of association with rats when the nature of the illness is comparatively mild when the Weil Felix agglutinations are positive in rising titre to Proteus OX19 and when the case in question occurs in an endemic area (Price Textbook of Medicine). The case described above fulfils all these requirements save the first History of direct association with rats could not be obtained but it is known that in the Asian lines where this patient was quartered rats are often to be seen and patients are occasionally treated who have been bitten by rats while asleep There is however no indication where the infection might have been contracted and the patient may well have been infected in another part of Singapore while visiting relations or friends

Murine endemic urban or flea typhus is a disease caused by *Rickettsia mooseri* which is conveyed to man from the black rat by the rat flea The rickettsial bodies contained in the faeces of the flea are deposited on the victim's skin while the flea is biting and subsequent scratching is said to be the means by which the infection gains entry The signs and symptoms of murine typhus resemble those of classical (louse) typhus but are much less severe As in the present case the onset is gradual not abrupt and the patient may initially be discussed as another case of flu The blotchy erythematous and papular rash (later petechial) of classical typhus is greatly modified and may even be absent (or apparently so) especially when the patient is a dark skinned person The stage of nervous prostration was well marked and obvious in the present case but was much less severe and hardly compared with the amnesic stupor of classical typhus which in 20 per cent of cases heralds death The mortality in murine typhus is less than 1 per cent In both diseases there should be a relative lymphocytosis towards the end

of the first week of illness but this is poorly shown here In both too the patient s serum agglutinates *B proteus* OX19 in a rising titre (but not Proteus OXK or OX2) as the disease progresses and this is demonstrated in the above chart Scrub or mite typhus is easily differentiated from other rickettsial diseases in its primary eschar with local lymphadenitis Here the patient s serum agglutinate *B proteus* OXK only

The differential diagnosis of the present case lies between malaria typhoid fever atypical pneumonia and meningitis With increasing headache the latter diagnosis was considered at one stage but was ruled out by the finding of a normal cerebrospinal fluid Atypical pneumonia was excluded by chest X ray and malaria by the irregular nature of the fever and repeatedly negative blood smears Typhoid fever remained a possible diagnosis but the patient at no time sunk into the profound oblivion and unawareness typical of the ' typhoid state ' Urine and fæces cultures were repeatedly sterile for pathogenic bacteria blood culture was unfortunately not undertaken The rising agglutination titre of the Weil Felix test finally excluded typhoid fever Complement-fixation tests using the specific rickettsial antigen which are preferable to the Weil Felix test in the diagnosis of rickettsial infections were not available

The positive Widal agglutinations (*see* chart) are of interest and are explained partly by previous T A B inoculations and partly by the anamnestic reaction in which certain serum agglutinations are evoked by a disease entirely different from that disease for which they are normally specific In both these conditions the agglutination tests may be positive for typhoid H agglutinins in quite a high titre Typhoid O agglutinins are never evoked in this manner and no agglutinations to them were obtained in this case at any time An additional feature of interest is the positive blood Kahn reaction which returned to normal four weeks after it was first found positive. This is analogous to the blood Wassermann reaction which in typhus is nearly always positive before the crisis and becomes negative during convalescence (Rolleston and Ronaldson Acute Infectious Diseases)

Specific treatment of murine typhus as in other rickettsial disease is now possible with chloromycetin aureomycin and terramycin—none was available for administration in this case however Reports differ as to which of the three drugs is most effective Basically 250 mg (one capsule) every six hours of any one of these drugs may be administered but a loading dose of six to eight capsules may be given in cases severely ill Dramatic improvement may be expected within thirty six hours otherwise dosage should be increased to two capsules every three hours and continued until the patient is afebrile In all cases it is advisable to give parenteral vitamin B during the period of administration of these drugs

Symptomatic treatment is of great importance and as in this case may be the only treatment available The ensuring of an adequate fluid intake the routine treatment of fever the relief of constipation headache and insomnia (the latter by morphia if necessary) represent part of the care needed in such a case After care is concerned with the encouragement of active

movement [illegible] graduated exercises until over a period [illegible] patient is returned to normal health Tonics and iron for several days [illegible] may be prescribed during this period It will be noted that the case described above returned to duty a week after leaving hospital Local economics and personal business dictate an early return to duty in all patients and the "convalescent" part of Western medicine is therefore largely unknown among the Asians

SUMMARY

A case of murine typhus is recorded from the R N Asian Hospital H M Dockyard Singapore

My thanks are due to Surgeon Captain Cosman Davies M D R N for permission to publish this case to Surgeon Commander Southwell-Sander for his help and to S B P O (L) G Woosey who performed the numerous laboratory tests

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A CASE OF CANICOLA FEVER

BY

Surgeon Lieutenant D G JULIAN, R N V R.

CANICOLA fever is an acute infective disease caused by the *Leptospira canicola* which usually manifests itself clinically by sudden onset of an influenza-like illness but with marked meningeal symptoms and muscular pains It is contracted from infected dogs—40 per cent of unselected urban dogs in Glasgow (Stuart) and London (Joshua and Broom) showed evidence of previous infection The disease is rare but is becoming more frequently recognized Whereas there had been only 12 cases reported in this country up to early 1951 more recently Broom was able to report on 54 cases occurring in England and Wales during the last three years

Case History —A J C aged 30 a corporal in the Royal Signals

This patient was admitted to a naval hospital on the 30th April 1951 He complained that he had been feeling very ill with fever and rigors for the last three days accompanied by a rash Later pain on the left side of the chest with dyspnoea developed

He had been a Prisoner of War in Japan where he suffered from severe malnutrition and ankylostomiasis but following repatriation no evidence of hookworm infection could be found

On Examination – He was seen to be extremely ill pale sweating and in very great distress Respirations were fast and shallow the pulse rate was 130 and the temperature 104 There were numerous rales in the left base A generalized maculopapular rash was observed

A Leucocyte count showed 11 400 cells/c mm
Polymorphs 90 per cent.
Lymphocytes 8 per cent
Monocytes 1 per cent
Eosinophils 1 per cent

No malarial parasites were detected in the blood Chest X ray normal

A tentative diagnosis of pneumonia was made and 500 000 units of penicillin were given intramuscularly followed by 200 000 units four hourly

[illegible]

[illegible]

[illegible]

DISCUSSION

The case described exhibited the characteristic features of infection by *Leptospira canicola* and resembles closely the mild forms of Weil's disease. In view of the widespread infection of apparently healthy dogs and low susceptibility of man, prophylactic measures would seem unnecessary. Vaccines, however, are used on a large scale for the immunization of dogs and probably could be developed for use on humans. The disease is seldom fatal, 2 cases being reported (Wolff *et al.* and Weetch *et al.*). In both cases the patient had long-standing renal disease.

The present case history illustrates the value of investigating obscure cases of meningitis for viral and leptospiral organisms. Broom suggests that the early diagnosis of the disease may be aided by the marked and constant rise in the erythrocyte sedimentation rate.

I wish to thank Surgeon Commander P. B. Nichol, R.N., for the pathological investigations, and the Central Public Health Laboratory and the Wellcome Research Laboratories for the complement fixation tests and agglutination reactions, the results of which both suggested and established the diagnosis. I am indebted to Surgeon Rear Admiral Colborne for permission to publish this case, and to Surgeon Captain W. A. Hopkins, R.N. (Rtd.), for his kind advice.

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Reviews

[illegible] Worsur Dunlap M.A. M.D. [illegible] 388 London [illegible] 30s 0d

[illegible] This [illegible] published in [illegible] The high standard [illegible] will [illegible] nervous dis[illegible] It will be welcomed alike by physicians in general and [illegible]

The [illegible] subject in a good sequence and the first 104 [illegible] physiological anatomy of the nervous system this is an excellent [illegible] the subject and forming as it does the basis of all examining [illegible]

Particular [illegible] the chapters on case taking and cerebral tumours In the chapter [illegible] psychoneuroses the Freudian hypothesis is explained in terms [illegible] plausible to the stranger in those deep waters whilst the conception of [illegible] and the Behaviour School are clarified

The book [illegible] to read and is interspersed with flashes of wit all too rare in [illegible] Instances — Difficulty in relaxing the grip may cause social [illegible] when the mysterious male patient has occasion to shake hands with [illegible] (page 489) and Charcot's grande hysteric [illegible] once seen is a [illegible] never to be forgotten" (page 692) may be quoted

The illustrations [illegible] the photographs well chosen and the diagrams clear

Examples [illegible] are unfortunately to be found at intervals and such [illegible] for Lang (page 117) Nystagmus " for Nystagmus [illegible] Corpus Striatum but Corpus Striatum (page 535) occur The [illegible] the terms ipsilateral and contralateral becomes a little [illegible] Ipsilateral and opposite sides are good English words and equally [illegible]

At this stage the [illegible] good value It should be on the shelf of every Medical Specialist

Commonwealth Of [illegible] By Frederick Charles with R Ch S Foreword by Sir Harry Platt MS FRCS FACS First Edition 1951 Pp 255 Illustrations 131 [illegible] Price 28s 0d

A large part [illegible] the skilful removal of corns callosities and other excrescences in the [illegible] adhesive felt padding to relieve pressure But adhesive felt is [illegible] it is well It becomes quickly compressed its position easily becomes [illegible] and may produce irritation of the skin

More permanent [illegible] can be bought in standard sizes and such corn plasters [illegible] gauze elastic arch supports and other pressure relievers prove adequate for many patients But the most successful appliances are those made on casts of each individual patient's feet

In this book Mr Charles [illegible] exact instructions in the technique of cast making using plaster of Paris [illegible] plumber's putty dental composition wax or Zelex a material of rubbery consistency which set [illegible] these negative casts positives are made in plaster of Paris and on these positives are constructed the various appliances

Such [illegible] are built [illegible] chamois [illegible] Orthodontic appliances [illegible] made of strip rubber [illegible] illustrate directions [illegible]

A long [illegible] in the [illegible] the children entering [illegible] considerable [illegible] with perfect [illegible]

Surgical [illegible] balloon pads [illegible]

Mr. Hathaway [illegible] produced in [illegible] in this [illegible] Prosthetic field [illegible]

One cannot help [illegible] on the [illegible] almost minute [illegible] callosities [illegible] seen in natives who go barefoot [illegible] feet and hints were always made to [illegible] have been written. There might [illegible]

Oral and Dental Diseases. By Hubert H. Stone, M.B., M.R.C.S., L.D.S., R.C.S., Professor of Dental Surgery and Dean [illegible] Liverpool; General Consultant and Director [illegible] Maxillo-Facial Centre, Broad Green Hospital [illegible] *International Dental Journal*. Examiner [illegible] Dental Surgery of the Royal College of Surgeons [illegible] Dentistry, University of London; [illegible] Universities of Durham and Glasgow; Formerly Examiner [illegible] Universities of Birmingham, Bristol, [illegible] Hon. Dental Surgeon, University College Hospital [illegible] Second Edition. 1892. Pp. 1012. Illustrations [illegible] Price 25s. net. [illegible]

The well-deserved reception of the first edition [illegible] edition being required within two years. [illegible] some cases amplified the material in the first [illegible] dreed and illustrated book which will [illegible] in many quarters [illegible]

Professor Stones is [illegible] pathologist [illegible] the claims to their arguments. [illegible] the reader's doubts. The illustrations [illegible] is a credit to the publisher.

The chapter on [illegible] well presented and the [illegible] adaptation of Angle [illegible] was based on the [illegible] molar.

The section on [illegible] Roff and Glazebrook [illegible] vitamin C intake during the [illegible] quoted took place [illegible] confirmed by other [illegible] tomatitis [illegible] April 1914.

As this is a textbook [illegible] in the section on [illegible]

[illegible] picture with a built up flang[illegible] [illegible] that gout an model assist. [illegible] [illegible] NIV [illegible] lung, in two [illegible] [illegible]

[illegible] I in this be recommend [illegible]

[illegible] By [illegible] Fairbank [illegible] [illegible] Illustration [illegible] [illegible]

[illegible] affections of the skeleton [illegible] has taken an especial interest in [illegible] each is presented in atlas [illegible] [illegible] is illustrated with radiographs [illegible] well reproduced [illegible] known facts of each [illegible] the book [illegible]

[illegible] Surgeon [illegible] the diagnosis of an [illegible] illustrators interesting [illegible] with several of the [illegible] with which endocrinologists and Pædiatrists [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] a valued possession to the [illegible] [illegible]

[illegible] By [illegible] M.B. Ch.B. B.Sc. [illegible] 36 London Nursing Mirror [illegible]

[illegible] in the *Nursing Mirror* [illegible] a difficult problem [illegible] anæsthetic as opposed to [illegible] [illegible] the necessity of [illegible] [illegible]

[illegible] preparation [illegible] recognized [illegible] psychology in the [illegible] training

[illegible] diagrams and drawings [illegible] photographic reproductions [illegible] In such small models [illegible] difficult to isolate the [illegible] superfluous

[illegible] might usefully include some remarks on [illegible] and explosion hazards [illegible] diathermy and some illustrations of the best methods [illegible] patient [illegible] the bed

[illegible] Part 4 By Hamilton Bailey F.R.C.S. F.A.C.S. F.I.C.S. [illegible] Assisted by N. M. Matheson Sixth Edition 1952 Pp. 183 Illustrations 411 [illegible] in colour Bristol John Wright and Sons Ltd London Simpkins Marshall Ltd Price 21s 0d

[illegible] volume of this excellent work deals with the emergency surgery of chest [illegible] spine jaws and teeth the thyroid blood vessels tendons and nerves joints

[illegible]

[illegible]

[illegible]

This Tr[illegible] 1940 until [illegible] on Tyrol [illegible] Further ce[illegible] Noble and [illegible]

Such [illegible] crannarch [illegible] suggest that [illegible] *technique*—[illegible] fact [illegible] associated with [illegible] 80 per cent of [illegible] a transfusion [illegible]

(2) Warm [illegible]
(3) The hyper[illegible]
(4) The [illegible]

Part I deals [illegible] 230 co[illegible] problem was [illegible] depression [illegible] This volume [illegible] (2) From the clinical [illegible] estimations by [illegible] 1924 [illegible] the incidence is [illegible] cases of [illegible] transfusion [illegible]

The cases [illegible] anesthetist [illegible] product [illegible] effect of anesthesia [illegible] the underlying [illegible] left the complete [illegible] next [illegible]

[illegible] with 80 [illegible] [illegible] transfusion [illegible] [illegible] salt [illegible] [illegible] volume and [illegible] [illegible] infection [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] Thi[illegible] than [illegible] blood [illegible] Hemoc[illegible] in limb injur[illegible] is especially [illegible] and inle[illegible] he honis [illegible] in the intransfu[illegible] under 30 per [illegible] haemoglobin of at least 40 per [illegible] B value [illegible] of 21 grammes of chlorine per litre [illegible] together [illegible] combining with carbon dioxide [illegible] renal function which was often aggravated by the [illegible] alpha drugs In addition partial starvation marked [illegible] and infection accounted for 33 per cent of the deaths from abdominal injuries in old [illegible]

The section on metabolic disturbances is less fully presented than that on blood loss The authors however have answered the main question of when what and how much to transfuse the injured patient This is not an easy book to read but well worth the effort

PHARMACOPOEA INTERNATIONALIS World Health Organization First Edition Vol I Pp xxiii + 406 Price 35s 0d $5 00 Sw fr 20

The Pharmacopoea Internationalis should be particularly useful to countries whose national pharmacopoeias need revision For those countries which have yet to develop a national pharmacopoeia it is hoped that their health and pharmaceutical authorities will decide to adopt the Pharmacopoea Internationalis as a whole as their official pharmacopoeia A supplement could be prepared by the quinty concerned so as to complete the Pharmacopoea Internationalis according to national requirements In such cases arrangements could be made for any of the constituents to be supplied in large quantities at special low rates

To say merely that the Pharmacopoea Internationalis will be eagerly welcomed with interest by pharmacists and physicians throughout the world would be an under statement it will be of immense practical importance to all concerned with the prescribing and dispensing of pharmaceutical preparations and will undoubtedly as is hoped in the preface contribute to promote and protect the health of all peoples

CLINICAL PRACTICE IN INFECTIOUS DISEASES By H R Harries M D Lond F R C P and H Mohan M D Lond F R C P with the collaboration of Ian Taylor M D Lond M R C I Fourth Edition 1951 Pp x + 717 with 20 plates and 48 figures or diagrams mostly in colour Edinburgh E & S Livingstone Ltd Price 30s Net

The fourth edition of this excellent book will be welcomed by students general practitioners and health officers The authors are to be again congratulated on maintaining the high standard of the previous editions which have now become an authority on the diagnosis and treatment of infectious diseases

The tables and diagrams throughout the book are carefully compiled and make it especially useful for instructional purposes It is pleasing to note the almost total absence of illustrations of the exanthemata which are rarely of value and in fact an frequently be misleading The authors confine themselves to diagrams showing the distribution of the rash a feature of paramount importance in the differential diagnosis of these diseases

The chapter on antibiotics has been almost completely revised in the light of modern knowledge of the newer methods of chemotherapy

For those interested in further study of the specific diseases the references at the end of the chapters have been revised and brought up to date Finally a new appendix outlines the facilities available through the Public Health Laboratory Service the Central Public Health Laboratory of which has now become an international centre of reference and type culture collection

[illegible] AND THE CITIZEN [illegible] M.D., M.R.C.P., D.P.H. Medical [illegible] of Health [illegible] Hollis and Carter [illegible] 10s. 6d.

Dr. Joseph Walker is a Med[illegible] community. He is better able than most men to [illegible] and to exercise a friendly though critical [illegible] responsibility in our industrialized age. As he states [illegible] to the philosophical approach [illegible] of the beginning of the century.

This book correctly emphasizes [illegible] in Christian Principles brings home [illegible] without a healthy spiritual outlook [illegible] men have lost satisfaction in work [illegible] the community [illegible] has become atomized. This [illegible] ambition [illegible] largely the crux of modern [illegible] cinema and [illegible] television. The individual units [illegible] contribute [illegible] in return.

Health and the Citizen is [illegible] The style is easy to read. The [illegible] material for philosophical thought in [illegible]

We acknowledge with thanks receipt of the following publications

Australian Journal of Experimental Biology and Medical Science. British Journal of Surgery. British Medical Journal. Brownian. Bulletin International Dental Service. Canadian Saude. Bulletin of the World Health Organization. Chronicle of the World Health Organization. Guy's Hospital Gazette. Journal of the Bombay Grant Medical College. Journal of the Indian Medical Association. Journal of the Malaya Medical College. Journal of the Royal Army Medical Corps. Medical Journal of India. Medical Journal of Australia. Medical Press. Medicina Franca. Middlesex Hospital Journal. Military Surgeon. Nagoya Journal of Medical Science. Proceedings of the Staff Meeting of the Mayo Clinic. Revista Medicale Universitaire de Medicine. Roumania. St. Mary's Hospital Gazette. St. Thomas's Hospital Gazette. Sydney University Medical Journal. Tokohu Journal of Experimental Medicine. Tropical Diseases Bulletin. United States Naval Forces. Medical Journal. [illegible] Indian Medical Gazette. Yale University Medical Bulletin.

News of the Service

OBITUARY

We regret the following deaths and extend our sympathy [illegible]

Surgeon Vice Admiral Sir ARTHUR GASKELL, K.C.B., K.B.E., F.R.C.S., F.R.C.P., who died on 12th January 1952, served in the Royal Navy for thirty years. He was Medical Director General of the Navy from 1927 until 1931.

He was born in 1871 and qualified M.R.C.S., L.R.C.P. in 1892 [illegible] Hospital). F.R.C.S. in 1899 and D.P.H. in 1913. He entered the Royal Navy [illegible] in 1893 and was promoted to Staff Surgeon in 1902, on [illegible] of period [illegible] with seniority of 1898. To Chief Surgeon in 1906. In Surgeon Captain [illegible] Surgeon Rear Admiral in 1923 and Surgeon Vice Admiral in 1927.

[illegible] 1990 [illegible]

He [illegible] [illegible] de on the [illegible] [illegible] sports. [illegible] [illegible] Naval [illegible]

[illegible] of Medical [illegible] and [illegible] Naval [illegible] 1942 [illegible] as responsible for the [illegible] [illegible] the Royal Naval [illegible] 1923 when he [illegible] 1927 he [illegible] and in 1947 he [illegible] Honorary [illegible] 1931 [illegible] on [illegible] the Medical [illegible] under the Chairmanship [illegible] Council [illegible]

[illegible] of the University College Hospital [illegible] the Royal Society [illegible]

[illegible] Medical [illegible] Vice-Admiral Sir Arthur [illegible] [illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] ANN MILLER [illegible] 26th January 1951 [illegible] 1912 [illegible] at Glasgow and [illegible] [illegible] January 1947 [illegible]

[illegible] HMS *Collingwood* [illegible] the RNM [illegible] the [illegible] 1941 [illegible] [illegible] ordinary [illegible] *Volume* [illegible] Chatham.

In 1948 Sloan Miller [illegible] Naval Medical [illegible] Cairo. This [illegible] demonology and [illegible] quite [illegible] Sloan Miller [illegible] published [illegible] and [illegible] the International [illegible] [illegible]

In a Miller [illegible] a special [illegible] which [illegible] the Naval [illegible] [illegible] and [illegible]

[illegible] Medical Research [illegible] Sloan Miller [illegible] to go [illegible] was wide [illegible] colleagues [illegible] the Inter- [illegible] 1950 [illegible] in a Delta [illegible] His early [illegible] a man of great [illegible] Cairo mentor- able [illegible] the Naval Medical [illegible]

Surgeon [illegible] M. DICKINSON [illegible] January 1952. Born [illegible] 1884. [illegible] Medical Service [illegible] 23 May 1904. [illegible] number in August [illegible] and [illegible] Retired List [illegible] Surgeon Captain [illegible] Sixth First World War [illegible] HMS [illegible] RN [illegible] the Haslar

Surgeon [illegible] 1952. [illegible] RNVR as a [illegible] 1947 [illegible] in the [illegible] DDE [illegible] RNVR [illegible] Surgeon [illegible] from [illegible] 1951.

Surgeon [illegible] World [illegible] for [illegible] aircraft [illegible] Medical [illegible]

[illegible] Born [illegible] 1857 [illegible] in 1882 [illegible] He was [illegible] Surgeon [illegible] 1908 [illegible] 1912. On the [illegible] Surgeon Lieutenant [illegible] Surgeon and [illegible] held until 1933.

[illegible] J. H. THOMAS, R.N. (Rtd.) [illegible] 1852. Born on 17th September 1880. [illegible] in 1882 and [illegible] Medical Service as a Surgeon in [illegible] 1884. He served in Surgeon Lieutenant [illegible] Surgeon in 1900. He [illegible]

Surgeon [illegible] A. H. C. SINCLAIR [illegible] 1852. Born on 18th [illegible] 1881 and published in [illegible] the R.N. Medical Service as a Surgeon Lieutenant [illegible] Surgeon Surgeon [illegible] 1938 and [illegible] Surgeon Lieutenant [illegible] September 1941. In March 1941 he [illegible] Prisoner of War [illegible] and H.M.S. [illegible] He was repatriated in May 1945 and served in H.M.S. *Europa* [illegible] in December 1945.

Surgeon Lieutenant [illegible] Mention in Despatches in February 1946 [illegible] looking [illegible] from the magazine of H.M.S. *Ulysses*.

Surgeon Commander G. R. McMAHON, R.N. (Rtd.) [illegible] 17th February 1852. Born on 30th May 1869 he qualified in 1893 [illegible] the R.N. Medical Service as a Surgeon in May 1894. He was promoted Staff Surgeon in May 1902, Surgeon Commander in 1910 and was placed on the Retired List on his own request in May 1914. He was re-employed during the First World War [illegible] August 1914 until October 1919 serving at Devonport Dockyard in H.M.S. *Dominion*, R.N. Air Station Wallsend and at Bristol Demobilization Medical Board.

Surgeon Captain J. A. L. CAMPBELL, *O.B.E.*, R.N. (Rtd.) died on 14th February 1952. Born on 22nd August 1867 he qualified in 1892 and joined the R.N. Medical Service as a Surgeon on 14th November 1894. He was promoted to Staff Surgeon in November 1902, Surgeon Commander in 1908 and placed on the Retired List (age) on 1st January 1921 with the rank of Surgeon Captain.

During the First World War he served in H.M.S. *Lancaster* and at the R.N. Divisional Depot, Crystal Palace. In 1919 he was awarded the *O.B.E.* for valuable services during the war.

Surgeon Commander (D) H. V. PELL, R.N. (Rtd.) died on 3rd March 1952. Born in June 1903 he qualified in 1926 and entered the R.N. Dental Service as a Surgeon Lieutenant (D) on 11th July 1927. He was promoted Surgeon Lieutenant Commander (D) in July 1943, Surgeon Commander (D) in December 1947 and was placed on the Retired List (own request) in May 1950. During the Second World War Surgeon Commander Pell served in H.M.S. *Vienna* at R.N. Barracks, Chatham and at R.N. Hospital, Malta.

Surgeon Captain T. G. H. BLACK, R.N. (Rtd.) died on 15th March 1952. Born on 10th February 1883 he qualified in 1907 and entered the R.N. Medical Service as a Surgeon in November 1908. He was promoted Surgeon Lieutenant Commander in November 1914, Surgeon Commander in 1920 and was placed on the Retired List (age) in February 1933 but returned to service at H.M. Dockyard, Devonport until March 1936. On retiring to the Retired List he was promoted Surgeon Captain (Retired) and from August 1938 until 1946 he served at H.M. Coastguard Station.

During the First World War Surgeon Captain Black served in H.M. Ship *Lance* and *Patrol*.

PROMOTIONS

[illegible] 4 3 52
Surgeon [illegible] *O B E* M D B Ch F R C P
Surgeon [illegible] (Rear Admiral) J Hamilton [illegible]
[illegible] Commander 1 1 52
Surgeon [illegible] J J McClintock
[illegible] Commander
[illegible] 5 2 52 Acting, [illegible]
[illegible] A R C S, Entered [illegible]
[illegible] R N V R Seniority 30 3 52
[illegible] D
[illegible] (D) R R B [illegible]
[illegible] Commander (D) R McIlane [illegible]
[illegible] Commander (D)
[illegible] D E S Hugh [illegible] 52

TRANSFERS TO PERMANENT LIST

[illegible] Hamilton H A Wismayer 17 2 52 Temporary Surgeon Lieutenant R H [illegible] R N V R 18 2 52 Surgeon Lieutenant J O Keffe 4 2 52 Surgeon [illegible] H Cole 19 2 52 Surgeon Lieutenant Commander J M Hanson 2 4 52 [illegible] Surgeon Lieutenant (D) P R Rogers R N V R 17 4 52

ENTERED FOR SHORT SERVICE COMMISSIONS

J D Walters M B B S 14 2 52 W G MacDonald M B Ch B 14 2 52 A H Mortimer M R C S L R C P 18 2 52 A D Lyall M B Ch B 18 2 52 D L Wright M B B S 18 2 52 A R Moynahan M B B S 13 3 52 M L Carpenter B M B Ch 13 3 52 J Cox M B B S 13 3 52 W H McKendrick M R C S L R C P 17 4 52 D I Hadley B M B Ch 17 4 52 R J A Carey M B B S 17 4 52 R J D Gibson M B Ch B 17 4 52

RETIREMENTS

Surgeon Vice Admiral Sir Edward Creasy *K B E C B* 31 3 52

Acting Temporary Surgeon Lieutenant Commander J K Irving 12 1 52 Surgeon Captain R W Higgins *O B E* 20 2 52 Surgeon Lieutenant-Commander A J Sangster (Temporary) 1 4 52

WARDMASTER OFFICERS

PROMOTIONS

Senior Commissioned Wardmaster W B Saunders to Wardmaster Lieutenant 13 1 52 Warr James D/MX 48169 to Acting Commissioned Wardmaster 3 1 52 A J Hacks D/MX 48146 to Acting Commissioned Wardmaster 7 2 52 W G Bliss *M B E* (A I Senior Commissioned Wardmaster) to Senior Commissioned Wardmaster 1 4 52 T J Carter (A I Senior Commissioned Wardmaster) to Senior Commissioned Wardmaster 1 4 52 T A Kirby (Commissioned Wardmaster) to Senior Commissioned Wardmaster 1 4 52

ADMIRALTY FLEET ORDERS

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25 Medical Communicable and Industrial Diseases—Notification
112 —Admiralty Surgeons and Agents—Appointments (Form S 582)

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292 —Medical Instructions for Naval Aircrew Personnel

338 —Medical Stores—Pencillin—Reports

356 —Civilian Non-Industrial Staff—Admission of Civilian Staff in Uniform to R N Hospitals

379.—Income Tax—R N, R M W R N S Q A R N N S, and V A D —Officers —Income Tax Relief for Uniform Maintenance

380 —Medical—Personnel Sick on Shore—Visit by Admiralty Surgeon and Agent—Form S 1293

423 —Victualling Stores—General—Medical Comforts—Supply and Accounting Arrangements

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478 —Medical—Transport and Disembarkation of Invalids—Categorization

479 —Medical—United States Personnel Admitted to R N Medical Establishments—Hospitalization Treatment and Disposal

480 —Medical—Vaccination and Inoculation

514 —Medical Stores—Dangerous Drugs in Ships Carrying a Medical or Dental Officer

606 —Medical Stores—Dangerous Drugs and Scheduled Poisons in Dental Surgeries Custody

652 —Medical—Officers—Admission to Civil Hospitals Registered under the National Health Scheme

653 —Medical—Vaccination and Inoculation

892 —Victualling Stores for Medical and Dental Services (Formerly Medical and Dental Stores)—Supplies to H M Ships in Home Waters

893 —Victualling Stores for Medical Services Reclassification of Items Formerly Dealt with as Medical and Dental Stores

920 —Medical—R N Air Stations—Health Control of Arrivals in the United Kingdom by Air from Abroad

936 —Medical—Officers—Admission to Civil Hospitals Registered under the National Health Scheme

945 —Royal Hospital School, Holbrook Suffolk

974 —Medical Stores —R N Medical Depot Risley, Warrington, Lancs—Closing.

975 —Victualling Stores for Medical and Dental Services—Scales and Allowances

996 —Radiation Hazards—Precautions for Protection of Personnel Concerned with Use of X-ray Apparatus or Radio-Active Materials

1025.—Medical—Hospital Arrangements in Scotland—Naval Medical Liaison Officer with Military Hospital Cowglen

1107 —Invalliding—After Care and Emergency Help—B R C S and Order of St John's Scheme—Forms S 332A

1146 Forms—M 168—Continuity of Medical Treatment

ROYAL NAVAL MEDICAL CLUB

BALANCE SHEET AND AUDIT AT 29TH FEBRUARY 1[illegible]

		£	s	d
Brought Forward				
Bank Balance	£194 0 2			
P O Savings Bank	85 10 10			
		279	11	3
Subscriptions		40	0	0
Dividends		15	2	6
Post Office S B interest		4	6	0
		£348	19	9

		£	s	d
J Lyons & Co catering		64	4	9
J Lyons & Co gratuities		14	0	0
Secretarial Expenses				
Advertisements	£4 13 0			
Invitation Cards	2 11 4			
Typist's Fees	8 10 7			
Miscellaneous	11 9 7			
		27	4	6
Refund to Member		1	1	0
Bank Charges and Cheques		12	0	
Balance at Bank		181	13	0
Balance at Post Office Savings Bank		89	16	10
Cash in Hand		7	8	
		£348	19	9

ASSETS

Securities held by Lloyds Bank (Cox & Kings Branch) Pall Mall

£434 17s 6d 4½% Consolidated Stock (Inscribed in name of Cox & Co's Nominees Ltd)

£100 0s 0d 2½% Defence Bonds Past Office Issue

£100 0s 0d 3% Defence Bonds Third Issue

£300 0s 0d 3½% War Stock.

(Sgd.) D P GURR
Hon Secretary

(Sgd.) J M HOLFORD
Surgeon Commander

(Sgd.) JACK L S COULTER
Surgeon Commander

(Sgd.) J MANSEL REESE
Surgeon Commander.

NAVAL MEDICAL COMPASSIONATE FUND

[illegible] RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 31ST DECEMBER 1951

	£	s	d	£	s	d
Balance at the [illegible] 31st December 1950				328	2	4
[illegible] 2½% Consolidated Stock	265	11	0			
[illegible] 3½% Conversion Stock	86	10	0			
[illegible] 4% Consolidated Stock	40	0	0			
[illegible] 3½% War Stock	35	11	0			
[illegible] 3% Defence Bonds	12	11	0			
[illegible] 2½% Defence Bonds	25	0	0			
				449	10	0
[illegible]				211	1	0
[illegible] Bank Interest				46	0	0
				£1 018	14	4

[illegible] Account of Receipts and [illegible] in accordance with the books [illegible] that all my requirements as Auditor [illegible]

[illegible] Stocks standing at the Bank of England and at [illegible] Bank Limited in the name of the Trustees [illegible] 1951 as detail [illegible] in attached [illegible] the Balance on Current Account at the National [illegible] on that date is also tabulated. The Balance [illegible] this the sum of £36 15s 9d representing investment [illegible] Benevolent Fund [illegible]

[illegible] to £2 2s 2d in respect of the year [illegible] unpaid at 31st December 1951 amounted to [illegible]

	£	s	d
1948	4	4	0
1949	11	11	0
1950	18	18	0
1951	25	4	0
	£59	17	0

(Sgd.) WM. C. McNICOL
Chartered Accountant
Auditor

	£	s	d
Awards to Widows and Orphans	785	11	11
Secretary's Allowance	30	11	0
Auditor	1	1	0
Cheque Book		8	0
Receipt Stamp			2
Balance at Bank on 31st December 1951	202	4	2
	£1 018	14	4

In addition to the above Cash Balance Stocks in the Trustees' [illegible] amounts were standing at the close of Accounts at the Bank of England in the names of the Trustees

*£10 600 4½% Consolidated Stock
†£1 900 3½% Conversion Stock
†£1 000 4% Consolidated Stock
†£1 000 3½% War Stock

Bonds of the following amounts are also held

†£400 3% Defence Bonds
†£1 000 2½% Defence Bonds

*Original Fund under Clause 5 of the Order in Council of 24th July 1915

Interest out of accumulated interest and subscriptions

(Sgd.) J. HAMILTON
Surgeon Rear-Admiral
Honorary Treasurer

18th January 1952

Notice

BLOOD TRANSFUSION

W[illegible] [illegible]ntrence of medical and other authorities concerned with blood transfusion is to meet in London from 3rd to 5th March with the object of seeking the international standardization of blood transfusion equipment

Hitherto most nations have tended to develop their own techniques with the result that differences in the equipment used have prevented blood supplies from one country being quickly and easily used in another If the conference is successful the equipment made in most of the leading countries will be interchangeable if not precisely standardized

Arranged under the auspices of the International Organization for Standardization (ISO) which is a Federation composed of National Standards Organizations from 33 nations the conference will be held in the Victoria Street premises of the British Standards Institution which represents British medical and industrial interests in the project and holds the Secretariat of the International Committee set up by ISO

Twenty nations—principally European together with the United States and several Empire countries—are sending delegates while observers have been invited from the League of Red Cross Societies the International Blood Transfusion Society the Permanent International Commission for the Study of Medical Equipment and the World Health Organization The Chair will be taken by Sir Alan Drury *C B E* F R S Director of the Lister Institute

Notice

[illegible] and in original papers [illegible] sional sub-[illegible] [illegible] items of news and matters of [illegible] to the Medical [illegible] ships and establishments [illegible] home and foreign [illegible] that is inserted free [illegible] to subscribers

[illegible] in the JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE [illegible] property of the Journal with full copyright powers and [illegible] the author decl[illegible] right of article that he desires to reserve the copyright to himself All articles [illegible] in duplicate

The Harvard system [illegible] employed for bibliographical references these references being arranged in alphabetical order of the authors names at the end of the contribution thus Smith F G (1935) *J roy nav med Serv* **22** 53 In the text a reference to a publication should be cited by giving the author and in brackets the date thus Smith (1935) believed this to be due &c

All communications should reach the Editor on or before the first of the month preceding the date of issue Unless clearly written they should be typed in order to avoid mistakes and they should be addressed to the EDITOR JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE Monckton House Alverstoke Gosport Hants

The Journal is published quarterly four numbers constituting one volume

The subscription is 20s per annum (postage included) payable on 1st January of each year but should a subscriber wish to commence at another quarter he may do so by payment at the rate of 5s per copy All subscriptions are payable in advance Single copies can be obtained at 6s per copy Cheques or postal orders for subscriptions should be crossed Lloyds Bank Ltd and be made payable to the Manager JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE Monckton House Alverstoke Gosport Hants to whom all communications relating to subscriptions &c should be addressed

The payment of subscriptions by banker's order is recommended as it relieves the subscriber of the necessity of forwarding a cheque each year and simplifies the keeping of accounts.

All Applications for Advertisements to be made to

THE EDITOR

JOURNAL OF THE R N MEDICAL SERVICE,

Royal Naval Medical School Alverstoke Hants

VOLUME XXXVIII SUMMER 1952 No 3

Journal
of the
Royal Naval Medical Service

Articles

CLASSIFIED MEDICAL REFERENCES IN THE WORKS OF SHAKESPEARE

BY

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THE works of Shakespeare the plays in particular abound in medical lore and are a treasure house of allusions to the habits hygiene amusements and life of his time Medical allusions occur in the writings of contemporary dramatists on occasion but the Shakespeare plays are unique in that they contain such a mass of information Indeed the medical reference frequency can be used as a yardstick to determine the authorship Rhyme frequency and punctuation peculiarities have in the past been used to detect non Shakespeare portions of the text and are supposed to prove the presence of collaborators in inclusion of other texts It is generally allowed that Shakespeare for example had little hand in writing of *Titus Andronicus* This play contains practically no references of medical nature although I disagree with Sir John Bucknill [3] who will not allow any at all

That such a large number of medical references exist many of them in detail must not be taken to imply that Shakespeare received any sort of training in medicine He was a man of the people who wrote for the theatre audiences of his time The allusions to medicine law shipping manners and the like must have been generally understandable to his audiences else his plays would have been too abstruse to be popular He used allusions the meaning of which must have been apparent to all so that his medical references can be taken to reflect the general picture of popular medicine of the time Essentially this popular medicine differed little from that of the professors There was then no wide gulf separating the medical knowledge of the people from that of authority To illustrate Shakespeare s agreement with orthodox opinion I have on occasion given extracts from contemporary textbooks

It is unfortunate that there are relatively few references to treatment and that such as there are give little detail As my intention has been to present a picture of Elizabethan medicine this therapeutic gap has been filled by

A

quoting from Gerard's Herbal [5] as an official Pharmacopœia [illegible] compiled at the time the plays were written

In attempting to extract all the quotations of medical interest I have had to exercise some selection as the field is wide and varied with ill defined limits No account of Elizabethan medicine can however be complete without reference to the influence of beliefs in charms omens and witchcraft in general In this connexion it must be remembered that belief in the supernatural was not confined to *hoi polloi* but was common to all from royalty downwards

Abnormalities

Monstrous births were believed to arise from intercourse with the Devil or with beasts or also from maleficent planetary interference The possession of any abnormality such as a nævus was a real danger since such were supposed to be the sign that the person concerned was a witch Alleged witches were examined for such abnormalities and also for areas of anæsthesia detected by pricking much as the physician does to day

The Compendium Maleficarum of Guazzo (1608) can be regarded as a textbook of witchcraft It gives the following description he (i e the Devil) places his mark upon some part of other of their bodies as fugitive slaves are branded and this branding is sometimes painful and sometimes painless as we learn from examples of it He does not however mark them all but only those whom he thinks will prove inconstant And the mark is not always of the same description for at times it is like the footprint of a hare sometimes like that of a toad, or a spider or a dog or a dormouse Neither does he always mark them upon the same place for on men it is generally found on the eyelids or the arm pits or lips or shoulder or posterior whereas on women it is found on the breasts or private parts

Thus the finding of such an abnormality proved the charge of witchcraft whilst the absence of any such could be construed to mean the accused was a constant witch! Similarly a witch could confess under torture Should she refuse to confess it could be held that the Devil was giving his disciple diabolical resistance Such beliefs and prejudiced reasoning led to the deaths of many thousands of women, men and children in the Europe of the sixteenth and seventeenth centuries

1 *Othello* I look down towards his feet—but that's a fable—
If that thou be't a devil I cannot kill thee —*Othello* v 2

(Even when disguised the Devil could always be detected by his cloven feet [1])

2 *Viola* My father had a mole upon his brow *Twelfth Night* v 1

3 *Brutus* The angry spot doth glow on Cæsar's brow
Calpurnia's cheek is pale and Cicero
Looks with such ferret and fiery eyes.—*Julius Cæsar* i, 2

(The ferret's eye has a well marked red reflex)

4 *Hamlet* Make Ossa like a wart!—*Hamlet* v 1

(Ossa was a mountain which when placed on Mt Pelion enabled the giants to scale the heavens in their war against the gods)

5 *Edgar* [illegible] had a thousand noses
[illegible] howled like the enraged sea.—*K. Lear*, iv. 6

[illegible]

6 *Constance* [illegible] that's with
[illegible] golden stars
[illegible] glows
[illegible] shooting, sparks.—*I. K. John*, iii. 1

[illegible]

7 *Iago* [illegible]
[illegible] hold
[illegible] *Ib. Ib.* iii. 1

8 *Iachimo* [illegible]
[illegible]

9 *Posthous* [illegible] *Ib.*

10 *Lucio* [illegible]
[illegible]
(Birth) [illegible]
[illegible]

11 *Cymbeline* [illegible]
[illegible]

12 *Dromio* [illegible]
[illegible]
(Dromio [illegible]
[illegible]

13 *Hamlet* [illegible]
[illegible] *H.* [illegible]

[illegible] 1880 [illegible]
[illegible] know [illegible]
[illegible] patient [illegible]
[illegible] that [illegible]
[illegible] and that [illegible]
[illegible] necessary
[illegible] spu
[illegible] stem—

14 *Lear* thou art a boil,
A plague-sore, an embossed carbuncle,
In my corrupted blood.—*King Lear*, II, 4

15 *Salisbury* His passion is so ripe it needs must break.
Pembroke And when it breaks, I fear will issue thence
The foul corruption of a sweet child's death.—*King John*, IV, 2

16 *Montjoy* we thought not good to bruise an injury till
it were full ripe.—*Henry V*, III, 6

17 *Bolingbroke* Fell sorrow's tooth doth never rankle more
Than when it bites, but lanceth not the sore.—*Richard II*, I, 3

(When I was a child one favourable [illegible] application [illegible] was recommended by John [illegible] Arden [illegible] fourteenth century. [illegible] Wellcome Historical Research Department.
Let [illegible] be well mixed [illegible] black soap [illegible] Make a hole [illegible] the middle [illegible])

ACHES

18 *Hamlet* the place, and knocked about the mazzard with
a sexton's spade. Did these bones cost no more the
breeding, but to play at loggats with 'em? mine
ache to think on't.—*Hamlet*, V, 1

[illegible]

19 [illegible] My wound is [illegible]
[illegible]

20 *Timon* thou shalt [illegible]
Thou pangs of love, with other incident throes
That nature's fragile vessel doth sustain
In life's uncertain voyage.—*Timon of Athens*, V, 1

21 [illegible] By'r lakin, I can go no further, sir;
My old bones ache [illegible]—*Tempest*, III, 3

22 *Pandarus* I have a rheum in mine eyes too, and such an
ache in my bones that, unless a man were
cursed, I cannot tell what to think on't.—*Troilus and Cressida*, V, 10

23 *Pandarus* A [illegible] me for my aching bones [illegible]

(Pa[illegible] became [illegible] and early [illegible]

[illegible]

[illegible]

24 [illegible] [illegible]

[illegible]

25 [illegible] [illegible]

[illegible]

26 [illegible] [illegible]

[illegible]

[illegible]

27 *Hamlet* [illegible]

28 *Hamlet* [illegible]

29 *Goneril* [illegible]
Regan [illegible]
Goneril [illegible]

30 *Goneril* A[illegible] are old and re[illegible]

31 *Gaunt* Thou canst help time [illegible] me with [illegible]
But stop no wrinkle in his pilgrimage.—[illegible]

32 *Gaunt* And thy unkindness be like crooked age—[illegible]

33 *York* [illegible]
[illegible] *Richard II* [illegible]

34 *York* Who [illegible] with age [illegible] thyself.—*R[illegible] II* [illegible] 2

35 *Scroop* White beards ha[illegible]
hairless scalps —*Ric*[illegible]

36 *Gaulerius* your still age —[illegible]

37 *Falstaff* You that [illegible] of us
that are young [illegible]
with the bitterness [illegible]
the vaward of [illegible] too

Chief Justice Do you set down [illegible]
that are written [illegible] characters
of age? Have [illegible]
a yellow cheek [illegible]
an increasing [illegible]
your wind short [illegible]
and every part [illegible] *H[illegible] IV* Pt 2 [illegible] 2

38 *Antonio* with hollow [illegible] *[illegible]* [illegible]

39 The aged man that [illegible]
Is plagued with [illegible]
And scarce hath [illegible]
But like still pining Tantalus [illegible]
And useless [illegible] the harvest [illegible]
Having no other pleasure of his [illegible]
But torment that it cannot [illegible]

40 *[illegible] Henry* A good leg will fall [illegible] straight back [illegible]
a black head will turn white [illegible]
grow bald [illegible] fair face will [illegible]
will wax hollow but a good heart [illegible]
but keeps his course truly —*H*[illegible]

41 *[illegible]* [illegible]
Of eighty winters—this I told them—[illegible]
A bud of fourteen [illegible]
To put [illegible] into [illegible] the aged [illegible]
[illegible]
The gout had [illegible]
Torturing [illegible]
Had almost [illegible]
In him [illegible]
Had by his young fair [illegible]
Believed it was his [illegible]
And who would not [illegible]
O thou that from [illegible]
In mortal [illegible]—[illegible]

[illegible]

[illegible]

42 *I*

43 *I*

51 *C*

45 *Orl*

46 *Ulyss*

47 *Ægeo*

48 *Dul*

49

50

[illegible] of the most famous of the English cases of longevity were Henry, [illegible] Henry Jenkins said to have been born in 1501 and to have died in 1670. Henry, later 1488–1509, married at 80 and was at least 120. Dr. William Harvey [illegible] the circulation of the blood became carried [illegible] medicine. In Harvey's time the pathology was found a dub[illegible] [illegible] contemporary knowledge and facilities. His famous statement [illegible] were not [illegible] more continuing. The full [illegible] the Circulation of the Blood.

Ague

Ague is used as a general term for malarial shivering and fever, and [illegible] solely. The periodicity of pyrexia in various illnesses has been [illegible] from the early days of medicine. Celsus and Hippocrates made a clear [illegible] between the periodic pyrexia of malaria and the hectic temperature [illegible]. It was also recognized that the fever due to malaria [illegible] usually and that regions of marshy ground were dangerous in this [illegible]. It was thought that the emanations from such ground the bad [illegible] the cause of the disease. This belief persisted for centuries until, in [illegible], Laveran demonstration of the mosquito by Ross in 1897–1898 [illegible] the possibility of such a vector had been suggested previously.

The [illegible] of quinine in Malaria was popularized by Sir Robert Tabor ([illegible]) who treated both Charles the Second and the Dauphin with it. The latter bought the secret from Tabor and gave him a monopoly of its sale in France for ten years. Quinine had been introduced into Europe by Jesuit missionaries from Peru hardly as yet thirty years since, says Fabor in his "English Remedy" published in 1682.

Typical of some of the treatments in The Middle Ages is that given by Pliny in his *Natural History*, where he recommended, since orthodox medicine had nothing to offer, the wearing of a red cloth containing the snout and [illegible] tips of a subsequently released mouse.

51	*Macbeth*	here let them lie Till famine and ague eat them up.—*Macbeth* I 5
52	*Caesar*	Caesar was not so much your enemy As that same ague which hath made you lean.—*Julius Caesar* II 1
53	*Lear*	I am not ague proof.—*King Lear* II 4
54	*Hotspur*	Home without boots, and in foul weather too How scaped he agues, in the Devil's name?—*Henry IV* Pt. I III 1
55	*Hotspur*	worse than the sun in March This praise doth nourish agues.—*Henry IV* Pt. I IV 1
56	*Hotspur*	he is so shaked of a burning quotidian tertian that it is most lamentable to behold.—*Henry IV* I 1 3
57	*Stephano*	This is some monster of the isle with four legs who hath got, as I take it, an ague. If I can recover him and keep him tame, and get to Naples with him, he's a present for any emperor that ever trod on neat's leather.—*The Tempest* II 2

58 *Stephano* How [illegible]
(The baleful mil[illegible]

59 *Salarino* My [illegible]
Would [illegible]

60 *Paracelsus* [illegible]

[illegible]

61 *King Hamlet* How fares [illegible]
Excellent well, [illegible] hand to [illegible]
I eat the air, pro[illegible] and summ[illegible]

(The belief that the elem[illegible] is frequent at the approa[illegible] reference is made in Old [illegible] several curious beliefs [illegible] a dungeon
In his Pseudodoxia Epi[illegible] Medica relates many [illegible] pulsi[illegible] heart of the chameleon

Alchemy

The avowed objectives of alchemy were the discovery of the [illegible] of turning base metals into gold by transmutation and the preparation of the elixir which would prolong life such as potable gold. The name of Paracelsus is always associated, though somewhat disproportionately, with the study of alchemy. It would be fairer to regard him as a revolutionary thinker in medicine who tried to investigate the problems of medicine by an alchemical approach. Unlike his contemporaries he refused to adhere to the medical theories of the ancients and as a demonstration of his determination to throw off the stranglehold of the old masters he publicly burned the works of Galen, almost an act of heresy to the orthodox sixteenth century practitioner. The alchemical concept of the human body was that it was composed of the elements of sulphur, mercury and salt, not of the elements themselves as we know them, but of their inherent principles. To these were added the qualities of heat, moisture, dryness and cold. It is difficult if not impossible to understand precisely what was meant of these terms, a difficulty shared by Robert Boyle who wrote his Sceptical Chymist in reply to the alchemical and empirical theorists. One sympathizes deeply with Boyle when he complains that he cannot appreciate the meaning of the terminology used.

62 *Cascu* Countenance like richest alchemy
Will change to virtue and to worthiness. — *Julius Caesar* [illegible]

63 *Lear* The art of our necessities is strange
That can make vile things precious. — *King Lear* [illegible]

64 *Fool* [illegible] sometimes like a philosopher, with two
stones more than his utilization. — *Timon of Athens* [illegible]

65 *Timon* You are an alchemist, make gold of that. — *Timon of Athens* [illegible]

[illegible] Brutus himself
That knows the tried and multiplying medicine —
Hit s Well That Ends Well [illegible]

[illegible] Yet coming from him that great medicine hath
[illegible] *Antony and Cleopatra* [illegible]

[illegible] I will never [illegible] morning, here I seen
[illegible] [illegible] with sorrow
[illegible] face the meshes seen
[illegible] [illegible] —*Sonnet* 33

Alcohol Effects of

The clinical effects noted are confusion of reasoning stupor nasal hyperaemia increase in and subsequent inhibition of sexual appetite and [illegible] ataxia emotions quarrelsome attitude slurred speech babbling [illegible] dilatation in the face vomiting and the relaxation of behavior control [illegible] The picture presented is that of acute alcoholism In spite of the [illegible] plea by Jaqo for the use of wine in moderation it might be argued that Shakespeare judged by his references was not addicted to the bottle Traditionally he is said to have died as a result of exposure following a drinking bout at a village near Stratford on Avon

189 *Lady Macbeth* Has two chamberlains
Will I with wine and wassail so convince
That memory the warder of the brain
Shall be a fume and the receipt of reason
A limbeck only when in swinish sleep
Their drenched natures lie as in a death
What cannot you and I perform upon
Th unguarded Duncan? *Macbeth* I 7

[illegible] *Duff* What three things does drink especially provoke?
[illegible] Marry Sir nose painting sleep and urine
Lechery sir it provokes and unprovokes it
provokes the desire but it takes away the
performance
makes him stand to and not stand to [illegible] though he
took up my legs sometime —*Macbeth* II 1

[illegible] *Iago* Being full of supper and drink upraising thoughts
[illegible] make us traitors dost thou come
To start my quiet *Othello* II 1

[illegible] I am unfortunate in the infirmity and dare not
task my weakness with any more —*Othello* II 3

[illegible] [illegible] an fasten but one upon him
With that which he hath drunk to night already
He'll be as full of quarrel and offence
As my young mistress dog —*Othello* II 4

[illegible] I am not drunk now I am standing well enough and
speak well enough —*Othello* II 3

[illegible]

[illegible]

[illegible]

it illumineth the face which is the beacon gives warning, to all the rest of this little kingdom Man to arm and then the vital commoners and inland petty spirits muster me all to their captain the heart who greater and puff'd up with his retinue doth any deed of courage and this redoubted captain of sherris — *Henry IV Pt 2* iv 3

[illegible]

82 *Constable* Can sodden water
A drench for surmounted jades their barley
bath
Decoct their cold blood to such valiant heat
And shall our quick blood spirited with wine
Seem frosty? *Henry V* iv 4

(Surrendering jaded horses to grooms)

83 *Sand* The red wine first must rise
In their fair cheeks my Lord then we shall
have rain
Talk us to silence *Henry VIII* i 4

84 *Stephano* I drink sack and monster when I bid thee thy
eyes are almost set in thy head — *The Tempest* iv 2

85 *Parolles* he will be sworn drunk and in his sleep he does
little harm save to his bed clothes about him
but they know his conditions and lay him in straw — *All's well that ends well* iv 3

86 *Falstaff* But Falstaff drunk I must be on all than [illegible]

87 *Enobarbus* Drink thou increases the red — [illegible] *Antony and Cleopatra* [illegible]

88 *Antony* I'll drink to your health [illegible]
In salt and bitter tears — [illegible] *Cleopatra* [illegible]

89 *Caesar* [illegible]
Spits what I speaks [illegible] *Antony and Cleopatra* [illegible]

90 *Alexas* Then sat he down every man by
And sat sad alone

Crescent So all [illegible] unless they are [illegible]
[illegible] *Antony and Cleopatra* [illegible]

91 *Jupiter* [illegible]
redundant [illegible]

92 *Iachimo* My lord I know I lost but a dish
Neither shall you dine at your pleasure
Neither shall you have the running of
Most delicate [illegible] *Cymbeline* [illegible]

Allergy

93 *J.* [illegible] palmish at the smell of le[illegible]

94 *Bu*[illegible] [illegible] thing before but a cat [illegible] —*All's Well That Ends Well*

95 *Shakes.* Some men there are love not a gaping pig,
Some that are mad if they behold a cat
And others when the bag pipe sings i' the nose
Cannot contain their urine for affection
Masters of passion sway it to the mood
Of what it likes or loathes. Now for your [illegible]
As there is no firm reason to be rendered
Why they cannot abide a gaping pig;
Why he a harmless necessary cat;
Why he a swaying bag pipe; but of this
Must yield to such inevitable shame
As it offend himself being offended
So can I give no reason [illegible] —*Merchant of Venice*

[illegible] stars that rouses [illegible]
[illegible] that [illegible] bag pipes [illegible]

Almshouses

96 [illegible] And the relief of lazars and weak age
Of indigent faint souls past corporal toil
A hundred almshouses right well supplied.—*Henry* [illegible]

97 A[illegible] Five hundred poor have in yearly pay.—*Henry* [illegible]

[illegible] Survey of London (1598) Stow gives a numerous a[illegible] [illegible] almshouses during the sixteenth century. This and [illegible] [illegible] seems to have been a common human charitable [illegible] the middle of the period. Ambrose Nicholas, saltemonger (1567) [illegible] Mildred's in Milk street near the Guildhall [illegible] hospital [illegible] poor people having each of them seven pence [illegible] every five sacks of coals in the parish of Christ Church [illegible] all the high [illegible] even.

The famous Lady Whittington, mercer, three times mayor [illegible] year 1421 [illegible] Hugh of the grey friars in Fitzfoy to the [illegible] of £400 [illegible] with his goods founded and built Whittington College with almshouses [illegible] thirteen poor men and twenty [illegible] there [illegible]

Anatomy

It is not surprising that anatomy was one of the earliest branches to which observers directed their attention. It is less understandable that the knowledge obtained thereby was so scanty and at times erroneous. Herophilus (of the Torcula Herophili) and Erasistratus both practised anatomy on living criminals [4]. Human dissection becoming forbidden, Galen gained his knowledge of human anatomy from animals. Little real advance took place until Vesalius (1514–1564) started the dissecting. Unlike his contemporaries who left the actual dissection to assistants whilst they expounded, Vesalius did the actual dissection himself. He was handicapped by the lack of material and once stole a rotting corpse from the gallows in which the ligaments were exposed and easily demonstrable. Dissection of the bodies of

criminals was permitted at rare intervals. The dissections were not of the minute detailed kind with which we are familiar and only gross structures were appreciated. It was the shortage of anatomical material that led to the crime of body snatching long before the time of Burke and Hare. As a result of the criminal activities of these two, who murdered to provide their corpses, the Anatomy Act was passed in 1832 which regularized the supply of subjects. The stress of the studies was in the direction of structure and little or no appreciation of function was present in the sixteenth century. The genius of Harvey lay in the fact that he associated function with structure. Celsus [4] went so far as to say that dissection was unnecessary since the appearance of the organs in no way helped a physician to find a cure for disease. He thought that sufficient anatomical knowledge could be obtained from viewing the bodies of slain gladiators or victims of wayside robbery with violence.

98 *Constance* And rouse from sleep that fell anatomy. *King John*, III, 4.

99 *Biron* Shall I begin? Proceed, sweet Cupid. Thou hast
thump'd him with thy bird-bolt under the left pap.—
Love's Labour's Lost, IV, 3.

100 *Pyramus* Ay, that left pap, where heart doth hop.
Midsummer Night's Dream, V, 1.

101 *Emilia* On the sinister side the heart lies.—*Two Noble Kinsmen*, III, 3.

Axis

102 *Clown* O, there's a hinge, a trail.
Ist Musician Why, a hinge, a trail, sir?
Clown Marry, sir, by a trail, a musical instrument that I know. *Othello*, III, 1.

Apoplexy

103 *Hamlet* Sense, sure, you have,
Else could you not have motion. But, sure, sense
Is apoplexed. For madness would not err,
Nor sense to ecstasy was ne'er so thralled. *Hamlet*, III, 4.

104 *Falstaff* And I have, moreover, his Highness is fallen into
this same whoreson apoplexy. This apoplexy is
as I take it, a kind of lethargy, an't please your
Lordship, a kind of sleep, or an the blood, a kind of
lethargy. It hath its original from much repletion,
study, and perturbation of the brain. I have read
the cause of his effects in Galen. It is a kind of
dullness. *Henry IV*, II, 2.

105 *First Hunter* Where is my right hand and my train is gall'd
Second Hunter [illegible] Hesperus
And with his [illegible] very [illegible]
Sleep [illegible] pinnace, for the King receives
[illegible] This apoplexy will certain be his end. *King Henry IV*, II, 2, in 4.

[illegible]

APOTHECARY

[illegible]

111 [illegible]

113 [illegible]

She would hang on him
As if increase in appetite had grown
By what it fed on —*Hamlet* I 2

114 [illegible]

I am weak with toil yet strong in
appetite —*Cymbeline* III 6

115 *Dorcas*

are the sea mark it
Walk forth with Leonine the air is quick there and
It pierces and will sharp the stomach —*Pericles* I iv

116 *Beatrice*

he is a very valiant trencher man he
hath an excellent stomach —*Much Ado About Nothing* I 1

117 *Benedick*

but doth not the appetite alter? a man
loves the meat in his youth that he cannot endure
in his age —*Much Ado About Nothing* II 3

118 *Demetrius*

But like in sickness did I loathe this food
But as in health come to my natural taste —
Midsummer Night's Dream II 1

119 *Gratiano*

Who rieth from a feast
With that keen appetite that he sits down?—*Merchant of Venice* II 5

120 *Slender*

I bruised my shin th other day I cannot
abide the smell of hot meat since —*Merry Wives of Windsor* I 1

121 *Balthasar*

Come our stomachs
Will make what's homely savoury weariness
Can snore upon the flint when resty sloth
Finds the down pillow hard —*Cymbeline* III 6

122 *Marcus*

your affections are
A sick man's appetite who desires most that
Which would increase his evil —*Coriolanus* I 1

123 *Dromio*

Methinks your maw like mine should be your
clock —*Comedy of Errors* II 2

Appetite in Pregnancy

Occasionally a depraved appetite occurs in pregnancy

124 *Autolycus*

a usurer's wife brought to bed
of twenty money bags at a burden and
how she long'd to eat adder's heads
and toads carbonado'd —*Winter's Tale* IV 3

125 *Pompey*

sir she came in great with child and
longing—saving your honour's
reverence—for stew'd prunes —*Measure for Measure* II 1

126 *Achilles*

I have a woman's longing
An appetite that I am sick withal —*Troilus and Cressida* III 3

Aqua Vitæ

(*Aqua vitæ* the water of life is reputed to have been made and so named by Arnold of Villanova (1237–1313) Being made from distilled wine it would

be brandy. In Scotland it was whisky. The Society of Barber Surgeons of Edinburgh in 1505 was given the monopoly of making and selling *aqua vitæ* in Edinburgh. One of the conditions of membership of the society was that the applicant had to be able to read and write.)

126	*Maria*	Nay, but say true, does it work upon him?
	Sir Toby	Like *aqua vitæ* with a midwife.—*Twelfth Night*, II. 5.
127	*Nurse*	Some *aqua vitæ*, ho!—*Romeo and Juliet*, IV. 5.

Artery

(It is difficult to obtain a clear idea of the Elizabethan concept of the circulation of the blood and the nature of the blood flow in the arteries and veins. Not a little in this uncertainty is due to the use of the expression 'vital spirits.'

The office of the Arteries is, to spread abroad in the body the vitall and lively spirit engendered in the bosome of the heart, and to refresh and temper the immoderate heate which otherwise mought be ingendered in the body. The which also, sleepe we or wake we, doe continually moove and heate therefore the motion of them is called the Pulse.—*Thomas Raynold's Birth of Mankind*, 1540.)

128	*Hamlet*	My fate cries out, And makes each petty artery in this body As hardy as the Nemean lion's nerve.—*Hamlet*, I. 4.
129	*Brown*	Can you still dream, and pore, and find in book? Why, universal plodding prisons up The nimble spirits in the arteries, as motion and long during action tire The sinewy vigour of the traveller.—*Love's Labour's Lost*, IV. 3.

Arthritis (*See also* Gout)

130	*Agamemnon*	Aches contract and starve your supple joints!—*Timon of Athens*, I. 1.
131	*Prospero*	Go, charge my goblins that they grind their joints With dry convulsions, shorten up their sinews With aged cramps, and more pinch-spotted make them Than pard or cat o' mountain.—*Tempest*, IV. 1.
132	*Marcius*	What, art thou stiff? stand'st out?
	Titus	No, Caius Marcius I'll lean upon one crutch, and fight with t'other Ere stay behind this business.—*Coriolanus*, I. 1.

Astonishment

133	*Hubert*	I saw a smith stand with his hammer, thus The whilst his iron did on the anvil cool With open mouth swallowing a tailor's news.—*King John*, IV. 2.

Auto suggestion

One [illegible] that psycho somatic [illegible] the effects of suggestion [illegible] Eminences. Only the terminology [illegible] modern. The principle [illegible] centuries ago.

> [illegible] is that pines beholding food
> [illegible] with make the mouth ache more.
>
> *Rape of Lucrece*, lines 1115

> [illegible] be in the cup
> [illegible] may drink depart
> [illegible] from for this knowledge
> [illegible] present
> [illegible] to his true make known
> [illegible] his grief, his sighs
> [illegible] *Tale*, II 1

> [illegible] Appear in the mind part of Medical [illegible] Shakespeare [illegible]

(To be continued)

TWELVE MONTHS WITH DESTROYERS[1]

BY

Surgeon Lieutenant H. R. MALLOWS, M.A., M.B., B.Chir., R.N.

Most students must necessarily devote so much of their time in the art of satisfying the examiners that they frequently qualify with little, if any, idea of the conditions of medical practice outside their own teaching hospital. Perhaps for the majority this is no handicap as they follow the simple sequence of one or more resident hospital appointments, an assistantship in general practice, and finally, an independent practice or partnership. Others discover early some particular interest in say pathology and turn directly to the hospital laboratories or University departments, but there must still be many students who having no strong urge to follow a particular line would welcome first hand information of the many widely different careers which are open to the possessor of a medical qualification. The annual educational numbers of *The Lancet* and *British Medical Journal* attempt to fill this gap in the students knowledge but considerations of space limit them in the main to supplying addresses from which regulations and conditions of employment may be obtained on application.

[1] Reprinted from the University College Hospital Magazine, Autumn 1948.

[illegible] of course give [illegible] any [illegible] but they [illegible] lights—or [illegible] as dust [illegible] home, [illegible]

[illegible] hospital [illegible] world he [illegible] consulting, [illegible] their increase [illegible] merit [illegible] months work is [illegible] Home Fleet Destroyer [illegible]

An officer [illegible] Medical Service [illegible] quarterly journal [illegible] This contains [illegible] treated by him during the [illegible] appropriate statistical [illegible] for the points visited by the department in the medical [illegible] home certain general [illegible] any other [illegible] of a personal character or in connection with the collected statistics [illegible] medical officer may consider to be of interest This duty may be considered [illegible] an example of the unnecessary paper work required in peacetime doctors which so much complaint was heard during the war in letters to the medical journals and of which many doctors fear there may be an increase in a [illegible] civilian service Certainly with a Flotilla of six ships often manned [illegible] the collection of the necessary data is often tedious and irksome but once in this routine work is efficiently done by the sick berth staff From the point of view of the administrators accurate records are of course essential in order to deal fairly with such matters as pension claims and from the point of view of the compiler this duty requiring as it does a quarterly review of his practice can be a most instructive academic exercise stimulating second thoughts and further reading about the interesting cases which have come under his care during the preceding three months It was whilst browsing thus once my last journal that it seemed worthwhile to analyse the work of the previous year as recorded in the four quarterly journals Before presenting my further comments it should perhaps be explained that only those cases where an officer or rating is put off duty are recorded in the journal for statistical purposes the only records of minor complaints being those of injuries treated and venereal diseases All other minor complaints treated on the attending list such as colds coughs headaches etc are not included

During the year my flotilla has averaged 1228 the actual number varying from time to time according to operational or training requirements distributed amongst six destroyers The sick bay in each ship has two cots but as there is rarely one sick berth rating any patient requiring more than the simplest attention is sent to hospital or a big ship if possible 333 patients have been treated on the sick list of whom 119 were treated on board and returned to duty and 172 sent to hospital 41 were sent to big ships or to sick quarters ashore and 1 was invalided Of the cases kept on board the largest number 41 were injuries of a more or less minor character such as sprained ankle

caused by [illegible] falling down hatch etc 29 were common colds and 10 gastroenteritis the remainder were such things as tonsilitis boils and carbuncles dermatitis etc

The diagnoses of all the sick cases are shown in detail below

I RESPIRATORY	62
Common Cold	33
Tonsilitis	10
Bronchitis	2
Atypical Pneumonia	1
Lobar Pneumonia	1
Pulmonary Tuberculosis	5
Chest Investigation	2
II CARDIOVASCULAR	2
Varicose Veins	2
III GASTRO INTESTINAL	30
Vincent s Angina	1
Parotitis	1
Duodenal Ulcer	1
Infective Hepatitis	1
Gastritis	2
Gastro-enteritis	9
Colitis	1
Appendicitis	7
Hernia	4
Fissure in Ano	1
Haemorrhoids	2
IV NEUROPSYCHIATRIC	11
Headaches	1
Hysteria	1
Neuroses	6
Epilepsy	1
Nocturnal Enuresis	1
Schizophrenia	1
V EYES	3
Conjunctivitis	1
Corneal Ulcers	1
Conjunctival Naevus	1
VI EARS	3
Otitis Externa	1
Otitis Media Acute	1
Otitis Media Chronic	1
VII NOSE	4
Septum Deformities	2
Sinusitis	2
VIII INFECTIOUS FEVERS	6
Mumps	2
Scarlet Fever	1
Rheumatic Fever	1
Poliomyelitis	1
Glandular Fever	1
IX SKINS	64
Abscesses	4
Boils	3
Carbuncles	2
Cellulitis	4
Cheiropomphulyx	1
Dermatitis	5
Erythema Nodosum	1
Impetigo	6
Ingrowing Nail	2
Penile Warts	1
Plantar Warts	1
Pediculosis (treated on the attending list)	3
Scabies (treated on the attending list)	15
Sebaceous Cysts	9
Tinea (all forms)	4
Urticaria	2
Whitlow	1
X UROGENITAL	24
Balanitis	4
Cystitis	1
Epididymo orchitis	3
Phimosis	1
Urethritis non specific	15
XI VENEREAL DISEASES	37
Gonorrhoea	30
Syphilis	7
XII INJURIES	70
XIII MISCELLANEOUS	17
Impacted Molars	2
Ganglion	1
Calcified Haematoma	1
Lymphadenitis	1
N A O	4
Drowned	1
Investigation	7

For those who have skipped the dull statistics I think it is a fair summary to say that they form a representative selection of the commoner ailments and together with the numerous cases treated on the attending list have certainly been sufficient to keep alive an interest in clinical medicine Perhaps attention should be drawn to the preponderance and therefore importance of the skin diseases especially in view of the scant attention which is often paid to this subject by undergraduates Other common skin conditions which have been treated on the attending list are Acne Pityriasis Rosea Psoriasis Lichen

[illegible] S James at Sh[illegible] D[illegible] Cl[illegible] T[illegible] [illegible] M[illegible] [illegible]
(B) [illegible] [illegible] [illegible] [illegible] D [illegible] H [illegible]

[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

Plains and [illegible] Uitenaan Tinea [illegible] of [illegible] more extensive [illegible] treatment [illegible] in the [illegible]

My general standard of living during this time has been considerably higher than that to which I had become accustomed as a student and housemaid. My cabin is comfortable if a little cramped and the companionship of a small friendly mess of a dozen or so officers is something very real and something which must demobilized officers regret they miss very much. Apart from the regular seasonal leave (with pay and bonus provided) there is adequate leisure to pursue one's own interests, academic or athletic and organized games are of course encouraged.

In the spring I was fortunate to visit Gibraltar, Algeria, Tangier and Portugal. Other ships of the Flotilla also visited Northern Ireland, The Azores, Freetown and Dakar and had the honour of escorting the Royal Family in the *Vanguard* as far as Freetown.

In the summer I visited Stavanger, Molde, Andalsnes, Ulvik and Kristiansund (S.) in Norway and never home, Rosyth, Scarborough, Campbeltown and the Clyde, where the Fleet again had the honour of a visit by the Royal Family. Other ships of the Flotilla also visited various ports in Sweden and Denmark.

At each port of call both at home and abroad contact was made with the medical authorities whose many friends were made and visits to local Hospitals and the ship were exchanged. In case the more timid should be deterred in any way by the thought of language difficulties it is a duty of the Medical Officer to report on the medical facilities available at all ports visited, so that up-to-date information can be available for subsequent visits and it is therefore essential, whatever one's personal inclination may be, to explore the local medical terrain. So far I am glad to say that my "schoolboy French" combined with my friends usually excellent English has always enabled the friendliest relations to be established. At Gibraltar there was nothing worse than Scotch or Irish to contend with at the Army Hospital and at Algiers my principal shore liaison officer had an English wife—and mother-in-law—and consequently spoke excellent English himself. In the civilian Hospital there I had a most interesting morning being shown round the wards by the principal physician and surgeon. There was hardly a case which would not have qualified for "Queen Square" and many were such as could only be found in the pages of Blind Sutton or the remoter corners of the wards for the chronic sick. Phagedena and phagedenic ulcers were common. One Arab had not bothered to consult a doctor until his entire external genitalia had sloughed away and now sitting comfortably in bed with only a clean gauze bandage ulcer on his perineum, his only comment was to raise his hands in an attitude of devotion and murmur "*Le Bon Dieu*." One of my patients with a severe superficial palmar spirochaetosis infection was operated upon in this Hospital but fortunately like those soldiers of whom Sir Gordon Gordon-Taylor spoke after his visit to Russia during the war he was very tough—a Yorkshireman

I [illegible] when [illegible] firmly strapped [illegible] Norwegian [illegible] with much [illegible] unceasingly [illegible] when my [illegible] However the [illegible] bottle of [illegible] excellent recovery.

At Lagos in Portugal I had to go in search of [illegible] afternoon during the siesta but as the [illegible] proportion of the 5000 inhabitants came [illegible] who could understand my French. We set off [illegible] enormous procession and by means of [illegible] at every street corner eventually found the doctor [illegible] satisfactorily over a bottle of port in [illegible] to note that despite the comparative remoteness [illegible] a three volume work on the Collapse [illegible] here also that I had the rather surprising experience [illegible] of the scalp required by a slightly [illegible] local policeman.

During the trip out it was too rough in the Bay of B[illegible] transferred to another ship in response to a call for assistance [illegible] to learn the to me novel technique of diagnosis and treatment [illegible] the radiotelephone. An officer sat with the patient [illegible] carried out the examination as I detailed it. Cases of [illegible] Bell's palsy and a crushed hand were satisfactorily dealt with [illegible]

The most notable memory of Norway was that of the [illegible] celebrations in which we joined at Kristiansand (8). Here the [illegible] ians own about 5000 motor boats and many have summer [illegible] other of the many islands around the neighbouring coastline. The [illegible] last all night and are centred around bonfires and picnics on [illegible] Food and fireworks were in good supply and we were [illegible] at each port of call.

Whilst at Campbeltown one [illegible] local Admiralty Surgeon and Agent informed me that there was [illegible] Hospital of fourteen beds ashore without a surgeon on the staff [illegible] acute surgical cases were flown to Glasgow. He claimed that [illegible] on the table within an hour. I was quite eager to test the [illegible] pay a flying visit to Glasgow but the patient refused [illegible] acute and the condition settled down after two or three days [illegible] board. My colleague who was an enthusiastic [illegible] offered [illegible] some alternative interest for me by suggesting that I might like to [illegible] some deliveries for him just to keep my hand in. However as [illegible] obstetrics and gynaecology is one of the [illegible] that the Service [illegible] me I politely declined his kind offer.

I have had no tales to tell of dramatic operations or thrilling [illegible]

sea, and a story [illegible] could have been [illegible] by any one of many Medical Officers [illegible] nor have I gone out of my way to justify my choice of careers [illegible] to my contemporaries in seniors who found it difficult to understand [illegible] I tried to give as accurate a picture as I could of twelve months work in [illegible] and if I have left the impression that there is sufficient clinical [illegible] and stagnation not to mention the limitless possibilities of study in groups of healthy personnel that there is the wonderful opportunity of making contact with doctors in many parts of the world, and that there is still sufficient leisure to pursue one's own interests academic athletic social or whatever they may be then I have succeeded in my object

I am indebted to the Medical Director General of the Navy for permission to publish this article (Reprinted by permission of the Editor of *U C H Magazine*)

A REVIEW OF THE MEDICAL SERVICES PROVIDED BY THE ROYAL NAVY FOR FAMILIES IN MALTA

BY

Surgeon Lieutenant G C MATHERS, R N V R

Malta in recent years has seen an enormous increase in the number of Admiralty sponsored families residing within its shores As the numbers have increased there has grown up a comprehensive medical practice which now offers all the facilities available under the terms of the National Health Service in England under conditions which I hope to show compare favourably

Admiralty sponsorship including free air passages and overseas allowances is granted with limited reservations to all serving officers and ratings in Malta and those serving in ships of the Mediterranean Fleet to U K based dockyard personnel and Admiralty Radio Officers The overall number of family units is approximately six thousand Natural divisions of the families according to the ship or establishment in which the man serves has given three distinct practice areas H M S *Falcon* and its immediate environs H M *Dockyard* and the thickly populated area of Sliema and its nearby districts An attempt has been made to provide a Central Families Clinic in each of these areas

The modern clinic in the centre of the largest population of families in Sliema is ideally suited for this purpose This clinic is a converted ground floor flat in a large new block of luxurious ratings married quarters and contains two well equipped consulting rooms a treatment room with three [illegible] dispensary office waiting room bathroom and staff and patients [illegible] The clinic is combined with the nearby W R N S sick bay where [illegible] family beds are available for treatment of short term illness The two

buildings share a common telephone and the nursing staff [illegible] attend clinic one assist and nurse bring pressure daily

Two medical officers are present from 0900 to 1300 and [illegible] approximately 50 patients by appointment during each daily session. V[illegible] and immunization schedules are carried on on a fixed day each week and separate ante natal fertility and family planning clinics are held. Consultant [illegible] consultations are arranged by our medical officer [illegible] building room is specially equipped for obstetric and gynaecological [illegible]

Requests for domiciliary visits are made [illegible] the clinic and [illegible] by the civilian receptionist during the morning. These [illegible] average ten per morning and the more urgent calls are passed to [illegible] medical officer serving in a nearby establishment. The routine [illegible] and [illegible] national calls are visited during the afternoon by the clinic [illegible] Between 1600 and 0900 requests for medical attention are directed to the [illegible] are received through the telephone extension in the W.R.N.S. Sick Bay where a duty sister and V.A.D. nurse are always in attendance. Some [illegible] made to ascertain the nature and urgency of the calls which are then passed to the duty families medical officer. Night calls tend to be frequent [illegible] five and as in all practices are only rarely strictly necessary. There are no arrangements for evening clinics

Specialist appointments are made with the specialists of the Royal Naval Hospital Bight. The average time of waiting is three days. All patients seen by specialists are automatically given a further appointment in the clinic one week later. The new documentation works smoothly and in general treatments advised by the hospital staff are carried out in the clinic. Should admission be required for non-urgent cases the patient's name is placed on the appropriate hospital waiting list and arrangements are made through the clinic when beds are available.

Emergencies are admitted directly to hospital without specialist's opinion. There is never any delay or difficulty in obtaining admission nor any query as to the nature or severity of the case. Following hospital treatment the patient is referred back to her own medical officer and adequate notes are made available.

Domiciliary practice is greatly facilitated by the services of four district Naval nursing Sisters who in addition to their daily work in the homes and different medical centres maintain a twenty four hour service. The help given to the doctors and the relief of hospital beds that their work allows cannot be overemphasized. In addition to their attendances at infant welfare ante and post natal clinics the Sisters carry out some eight hundred domiciliary visits monthly giving advice on infant welfare treatments penicillin injections and general nursing care.

This work is now so well organized and efficiently performed that it is doubtful if any better system exists.

I have described the organization of one clinic only. Naturally there is a great deal of integration and overlap between the three main principles and

[illegible] medical officers of the other two Services. [illegible] the practice, arrangements and services [illegible] have become

Obstetrics

The Dockyard [illegible] in attendance is Chinese.—Many of [illegible] and [illegible] combined it perhaps we may improve [illegible] defence in Malta.

The Maternity Hospital [illegible] accommodation of thirty-six beds is [illegible] CLARANCE [illegible] employing fully trained staff. [illegible] one of the [illegible] in the Army with an annual delivery [illegible] of whom 60 per cent are naval wives. Domiciliary midwifery is as [illegible] available but in recent [illegible] the excellent hospital accommodation it is [illegible] required. All patients when first seen are offered hospital beds [illegible] early and stage of pregnancy.

Antenatal clinics are held in Valletta and are combined Service clinics. [illegible] interesting to note that in these clinics held in a R.A.F. establishment an [illegible] wife may be examined by a Naval doctor and subsequently delivered [illegible] Army hospital. Such is the co-operation that has been established. The [illegible] standards of attendance and admission are those maintained by the larger [illegible] England. The lying in period is ten days and post natal consultations are arranged but all patients attend infant welfare and domiciliary post natal [illegible].

Such [illegible] infant and maternal mortality figures are within published limits. [illegible] Caesarean section rate compares favourably. It is noted, though no [illegible] is available, that the incidence of the more serious diseases of pregnancy [illegible] toxemias is lower than in England.

Some [illegible] in the More Common Diseases Seen in Practice

[illegible] of the adult population is low as relatives and parents do [illegible] visit in Malta. Consequently the more serious disease of old [illegible] are rarely seen.

[illegible] children two diseases have been much in the public eye [illegible] and gastro enteritis.

[illegible] Poliomyelitis

This distressing malady reached a peak incidence during the summer of [illegible] sporadic outbreaks have occurred since but have never approached [illegible] epidemic. Symptoms of the disease are well known by parents and [illegible] reported case travels through the Island so quickly that a state bordering [illegible] panic not usually ensues. During the last year non paralytic [illegible] have been diagnosed with some frequency but paralytic cases have been [illegible] few. No deaths have been reported. The inadequate drainage [illegible] and hot climate so appealing to the large "Fly" population combined with [illegible] arrival of potential contacts and carriers in the Island make

complete control difficult. Public Health measures [illegible] carried [illegible] large scale and a constant war against the Fly [illegible]

Gastro-enteritis

The infant mortality rate (1950) in Malta was 8[illegible] in England [illegible] difference was almost entirely due to gastro-enteritis [illegible] the [illegible] ever recorded for Malta but remains dangerously high.

Education regarding water and milk supplies, [illegible] preparation of fruit and vegetables and the earlier calling of medical [illegible] in the gastro-enteritis rate amongst English children to level comparable [illegible] Britain. The easy access to hospital beds and the [illegible] antibiotics has likewise enabled the mortality and morbidity [illegible]

Another disease prevalent in the country districts [illegible] population is brucellosis. Goats milk is still drunk in large [illegible] supplied directly from the farm to the consumer on the [illegible] Government Pasteurization Plant is now fully operative [illegible] families drink this milk in natural proportions. Consequently [illegible] disease is always suspected in patients with pyrexia of uncertain [illegible] diagnosis is rarely made.

'Sand Fly Fever' is probably more prevalent than is realized but [illegible] serious and is of short duration.

The state of health of children in general is widely discussed and [illegible] the opinion that the overall health of their families is inferior to that [illegible] A few positive facts may be recorded. Bronchitis childhood [illegible] in this climate as they are not subject to the extremes of temperature [illegible] dampness of the English winter. Some improvement may be [illegible] asthmatics for the same reason but the hot humid and dust-laden [illegible] summer play havoc with those suffering from hay fever and [illegible] conditions. In general the strain of the hot weather tends to [illegible] children and leave them listless and apathetic. The incidence of rheumatic fever is low.

Passing now to adult female population, climatic menstrual disturbances with great frequency on arrival in Malta. Polymenorrhoea and [illegible] are extremely common and may be protracted throughout the [illegible] despite treatment. Fortunately physiological amenorrhoea commonly [illegible] these distressing conditions.

Surgical emergencies requiring admission are similar to those [illegible] England. Convalescence is smooth and rapid being favoured by the climate [illegible] superior to the basic diet in Britain. The incidence of gangrene is [illegible] has however been found to be high and would appear to be greater than that for a similar group of patients elsewhere. This is not related to [illegible] in diagnosis or admission nor is it correlated with the severity of trauma. It has been postulated by those operating on these cases that a subclinical form of chronic bowel inflammation results from frequent intestinal [illegible] infecting organisms may be responsible for this increased incidence.

In conclusion may I say a word in those examining families to determine their fitness to live in Malta? The climate is beneficial to the majority, the diet is all. A chest X-ray is essential before leaving England as tubercle is often first detected after arrival and invalidings home has to be arranged immediately. The time of waiting for "cold" surgery is short so outstanding treatment that may be required should not delay passages. Facilities for radiotherapy and birth control are not available. Medically, then, in other respects life in Malta resembles that in England and minor maladies should in no way prejudice families request to reside in Malta.

Clinical Notes and Cases

GLANDULAR FEVER

A Report on Twenty-Three Cases

BY

Surgeon Lieutenant J. G. DAVIDSON, R.N.V.R.

AND

Surgeon Lieutenant H. R. G. RICHES, R.N.V.R.

THE purpose of this report is to draw attention to the high incidence of glandular fever which we have found in a service community during the last two years.

It is appreciated of course that glandular fever is commonly endemic in institutions, hospitals and isolated communities, and that this may be one reason why we have encountered such a relatively large number of cases. An equally important reason, we contend, however, is the fact that we have investigated cases which in civil practice might well have been overlooked. We seek no credit for this because it was the inevitable outcome of the system of medicine adopted on this Air Station whereby all personnel were admitted to these Sick Quarters if they were ill to such an extent as to be unable to continue their normal Service duties. It is probably fair to claim therefore that this series brought under observation the vast majority of all minor, as well as major, pyrexial illnesses.

One other important factor was the comprehensive laboratory facilities which we enjoyed because it has been found frequently that the distinction between a septic tonsillitis and the anginose form of glandular fever can only be made satisfactorily in the laboratory. We were therefore in the happy position of being able to make this distinction.

DIAGNOSIS

The disease as described in this series of cases is one characterized by a pyrexia, lymphadenitis, mononuclear leucocytosis, and a Paul Bunnell heterophile agglutination reaction in a dilution of 1/64 or greater.

INCIDENCE

The 23 cases under review were all Service personnel admitted to these Sick Quarters within a period of thirty-nine months (February 1948—May 1951). Ten of these cases came from an Air Station which has a complement of approximately 1,200. The remaining 13 were admitted from ships and their shore establishments in the vicinity.

The relative frequency with which this disease has been encountered may be

[illegible]

TABLE I.—THE NUMBER OF [illegible] ADMISSIONS SHARED WITH SOME OTHER [illegible] ADMISSIONS

Disease	*1948*	*1949*	*1950*	*Total for three years*
Infective hepatitis	5	8	8	21
Rheumatic fever	1	3	6	10
Pneumonia	3	12	7	22
Acute tonsillitis	65	65	78	208
Glandular fever	6	6	8	20
Total admissions (Medical and Surgical)	841	793	669	2,303

As we were dealing with a strictly limited and selected group little can be deduced concerning the age or sex incidence. It did appear however that the younger group were the more frequently affected with women relatively more often than men.

There was no marked seasonal incidence we could detect.

Clinical Features

The main clinical features and laboratory findings are summarized in Tables II and III. Some of the more important findings are here detailed further.

Glands.—Tender cervical lymphadenitis was present in half of our cases on admission and developed in all cases within a period of five days. Although axillary and inguinal involvement on admission was a less frequent finding occurring in approximately one third of the cases it was associated with cervical adenitis in all except 2 cases.

Generalized lymph node enlargement developed in one-third of the cases in some time during the course of the illness. The degree of lymphadenopathy however did not appear to be directly related to the general severity of the illness.

Throat.—In only 4 of 23 cases was the throat considered to be normal. The appearance of the throat however was of little aid to diagnosis because the lesions were frequently identical with those of an ordinary septic infection.

Pyrexia.—Fever was present in all except 2 cases. Characteristically it was moderate and remittent in the early stages settling within a few days into a large or intermittent evening pyrexia. Although the average duration of pyrexia was found to be fifteen days in one exception it case fever persisted for [illegible] weeks.

Spleen and Liver.—The spleen became palpable in one quarter of the cases usually within five days of admission and remained palpable for an average of [illegible] days. Clinically the enlargement was only moderate the largest spleen in [illegible] being palpable three to four fingerbreadths below the left costal margin.

The liver was clinically enlarged in one case and was associated with jaundice.

In this case the jaundice appeared three days after admission and persisted seventeen days. The Icteric Index was 40, the Van den Bergh gave a Direct and Indirect positive reaction and the serum bilirubin was 10 mg. per cent.

Skin Rash.—A rash occurred in 3 cases during the first week of the illness. In 2 it was a widespread morbilliform type and in the third urticarial.

TABLE II.—THE MAIN SYMPTOMS AND SIGNS ENCOUNTERED.

Symptoms	*No. of cases*	*Sign*	*No. of cases*
Headache	17	Pyrexia	21
Sweating	14	Lymphadenopathy	7
Malaise	11	Cervical	21
Tender glands in neck	9	Axillary and cervical	5
Vomiting	3	Inguinal and cervical	2
Abdominal pain	2	All groups	
Backache	2	Thymus	
Anorexia	2	Normal	4
Cough	2	Enlarged	2
Stiff neck	2	Pollinosis	6
Constipation	2	Enlarged pharyngeal	3
Diarrhoea	1	Conjunctivitis	1
Rigor	1	Petechial haemorrhage	1
Epistaxis	1	Peripheral abscess	1
		Palpable spleen	6
		Albuminuria	6
		Mononucleosis	5
		Rash	3
		Palpable liver (not jaundiced)	1

LABORATORY FINDINGS.

Blood Picture.—The classification of the atypical mononuclear leucocytes found in glandular fever is notoriously difficult. We have therefore adopted the convenient method of grouping together lymphocytes, monocytes, and the atypical mononuclear cells—the so-called Downey cells—under the general title of "Mononuclear cells."

A relative mononuclear lymphocytosis of 80 per cent. or greater was present in all cases in some time during the course. The illness appears to be unique in which the highest mononuclear count recorded was 45 per cent. In 12 cases the mononuclear count was 80 per cent. or greater, and in one case it reached 92 per cent.

In one third of all cases a mononuclear leucocytosis of 10 per cent. on admission but appeared during the first week of the illness.

Typical Downey cells were identified in all cases at some time during the course of the illness and were considered strong supporting evidence for the clinical diagnosis.

Paul Bunnell Reaction.—The method used was the straightforward dilution test, absorption methods not being used. All cases gave a macroscopic agglutination in a dilution of 1/64 or greater. In 18 cases the titre was 1/128 or less than 1/256, and in 6 cases it was more than 1/1024.

In our experience the Paul Bunnell reaction has become positive within the first week of the illness if it is going to become so. A positive seems to persist for a very variable time, the shortest time recorded being six days and the longest ninety days. In the majority of cases, however, a diagnostic titre persisted for slightly longer than one month.

The titre did not appear to have any direct relationship to the severity of the illness, nor to the degree of lymphadenopathy or lymphocytosis.

Urine.—The only abnormalities discovered in the urine were bile salts and pigments in the one patient with jaundice and slight albuminuria in six other patients.

TABLE III.—A SUMMARY OF THE MAIN CLINICAL AND LABORATORY FINDINGS

	Age	Sex	Tonsil enlarged	Lymph adenopathy	Spleen palpable	W.B.C.	Lymphocytes Polys	Lymphocytes Mono	W.B.C. Other	Paul Bunnell	Days in hospital
1	21	F	–	+	–	10 800	73	26	1	1 2048	70
1	30	M	+	+	+	200	43	55	2	1 64	18
3	23	M	+	+	–	15,600	15	82	3	1 256	36
4	20	F	+	+	+	17 600	18	81	1	1 128	53
	31	M	+	+	+	19 000	11	89	0	1 1024	28
	24	M		+	–	19 600	11	89	0	3 1 024	33
	1	M	+	+	+	9 400	23	70	3	1 1 024	26
5	17	F	+	+		11 000	50	45	5	1 64	7
6	1	M		+	–	14 200	39	58	2	1 128	45
1	19	F	+	+	–	14 400	17	82	1	1 256	
1		M	+	+	+	31 400	12	87	1	1 512	4
		F		+	–	15 400	17	82	1	1 512	–
11		M	+	+		20 000	13	87	0	1 512	–
11		M	+	+		16 200	26	72	2	1 512	4
1	4	F	+	+	-	14 000	40	55	5	1 512	41
6	–	M	–	+	+	22 000	17	81	2	1 4 024	16
11	12	F	+	+	-	11 000	8	92	0	1 512	18
1	1	F		+	–	10 000	24	69	7	1 64	1
1	19	F	+	+		11 600	22	78	0	1 512	12
1	24	F	+	+	-	17 000	11	87	2	1 1 024	19
21	18	M		+	–	26 000	35	63	2	1 256	22
11	1	F	+	+		25 200	34	64	2	1 512	51
1	11	M	+		–	21 400	9	89	2	1 256	9

COURSE AND PROGNOSIS

Progress was fairly satisfactory and recovery complete in all cases. The length of stay in hospital averaged thirty one days and the total time lost from full duties forty eight days. There were no known relapses.

TREATMENT

Treatment was purely symptomatic, bed rest being maintained until the patient was apyrexial and symptom free.

Patients were mostly discharged from hospital until the W.B.C. had shown some signs of returning to normal and were then usually granted a short period of convalescent leave before returning to full duties.

Discussion

On [illegible] publishing this report [illegible] we [illegible] high incidence of [illegible] fever which [illegible] in [illegible] community may be [illegible] of what is occurring in the general [illegible] population.

In young adults [illegible] shown on all the common most ways this [illegible] presents itself is with fever headache sore-throat and cervical adenitis. On [illegible] well realize therefore how in general practice it would be almost impossible [illegible] differentiate this type of the disease from an [illegible] septic tonsillitis. The importance of diagnosing glandular fever lies in the fact that cases of this type in general we believe desire a longer convalescence than an uncomplicated septic tonsillitis with associated cervical adenitis.

It may seem unnecessary continue to keep cases of a benign disease such as glandular fever in hospital for an average of thirty-five days as we have done. This custom derives however from a recent of chronicity in *Infectious Mononucleosis* by Jones (1948) in which he reports that of 206 cases 53 had symptoms persisting for a prolonged period varying between 3 months and 4 years.

We like to believe but hesitate to suggest from such a small series that our caution was rewarded by the absence of chronicity and relapse in our cases.

Recently there have been many claims for the efficacy of Aureomycin and Chloramphenicol in the treatment of this disease but as far as we know there has been no strictly controlled trial of these methods. In recent [illegible] and as these drugs were not generally available in the period 1948–51 all of our cases were treated symptomatically. Perhaps now that others are trying these newer antibiotics our results may be of interest for comparison.

Since it is such a very [illegible] in future to use an apparent [illegible] technique in the Paul-Bunnell reaction. We were satisfied however that titres of 1 61 by the ordinary dilution method could be considered diagnostic providing the clinical picture was consistent with the disease, a lymphocytosis leucocytosis present in the blood and there had been no recent horse serum therapy.

The stage during the illness at which the Paul Bunnell reaction becomes positive is of some interest it frequently being stated in some textbooks that a positive result may not be obtained until the second or third week. We have had no experience of this type of delayed positive reaction and therefore support the opinion of Bernstein (1940) that the Paul Bunnell is almost invariably exceptional positive within the first week of the illness if it is going to be positive.

Evidence is now accumulating that it is justified to diagnose glandular fever even in the presence of a negative Paul Bunnell reaction. Kaufmann (1944) in a review of 83 cases has embodied the opinion that a positive heterophile agglutination reaction is strong support for the clinical diagnosis but a negative one does not rule it out. In his series of 83 cases Kaufmann records 25 per cent as having a negative Paul Bunnell reaction.

We have had experience of 4 cases in which an acute lymphadenitis was associated with a mononuclear leucocytosis and a negative Paul Bunnell reaction. These cases were diagnosed clinically as glandular fever but have not been included in the series as we have attempted to show that even with rigid criteria of diagnosis the disease is still relatively common.

Summary

25 cases of glandular fever admitted to a Royal Naval Sick Quarters during a period of thirty nine months have been briefly reviewed.

It is suggested that this relatively high incidence may be but a reflection of the prevalence of this disease in the general population.

In adults cases frequently present with fever, sore throat and cervical adenitis, and it is often difficult to make the correct diagnosis without laboratory aid.

It is considered that glandular fever in adults should be treated cautiously as this disease can be the cause of a prolonged and debilitating illness.

We wish to thank the Medical Director-General of the Navy for permission to publish this report.

We are also very grateful to Surgeon Captain J. W. Bingham, *O.B.E.*, R.N. and Dr. J. A. L. Jackson, Consulting Physician, North West Hospitals Area, N. Ireland, for their kind help and advice.

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A CASE OF ACUTE PORPHYRIA

By

Surgeon Commander B. S. LEWIS, R.N.

In view of the comparative rarity of this disease and the difficulties which beset the early diagnosis this case which presented some unusual features is put on record.

Case History. [illegible]

[illegible]

[illegible]

[

TABLE

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	4 940 000	14 [illegible]	[illegible]	98	69	22	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.2.51	[illegible]	13 [illegible]	[illegible]	[illegible]	60	29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12.2.51	[illegible]	10 [illegible]	[illegible]	[illegible]	55	37	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.2.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23.2.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.2.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.2.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13.3.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.3.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15.3.51	5 920 000	[illegible]	[illegible]	[illegible]	63	32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.3.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.3.51	4 900 000	[illegible]	[illegible]	[illegible]	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19.3.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.3.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.3.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.3.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.3.51	4 610 000	12 450	92	11	86	14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.4.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.4.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

The Pathologist [illegible] condition

On the 27nd February 1951 a sample [illegible] haematologist [illegible] observation that [illegible] recently from human [illegible] The specimen [illegible] negative result [illegible] concentrated by [illegible] sodium hydroxide and [illegible] centrifuge the deposit [illegible] water and absolute alcohol after which [illegible] acid are added The solution is [illegible] by the spectroscope (Kalmer Bitchell) [illegible] solution is between the yellow and the green [illegible] later sample On the 25th February a sample [illegible] afterwards with chloroform The colour was not [illegible] indicating the presence of porphyrin-hydrogen But this time the [illegible] and this darkening persisted until death It was noted that the [illegible] during the phases in which the urine showed less colouration

Previous cases appear [illegible] exhibited [illegible] some stage of the illness but this was never found in the patient

The case aroused much local interest and [illegible] were suggested and carried out with [illegible] marked influence [illegible] progress

Major procedures including [illegible] blood transfusion and attempted replacement transfusion (Which failed [illegible] five pints had been given and five pints removed) [illegible] sulphadiazine [illegible] course of ACTH (Armour) 20 mg six hourly [illegible] response) were also exhibited without effect

Post mortem revealed no macroscopical abnormalities in the urine in the extreme emaciation and a patchy bronchopneumonia

Discussion

This case presents a number of features which [illegible] not seen in the

light of referr[illegible] (1940) [illegible] and Crossfield [illegible] right that fo[illegible] before and was g[illegible] delay in diagn[illegible] from normal [illegible] there is adrenal [illegible] illness before the [illegible] usual

It should also be noted that [illegible] prohibited the taking of any of the things such as [illegible] this disease

My thanks are due to Surgeon Rear Admiral [illegible] for permission to publish this case and to Surgeon Commander [illegible] for his account of the laboratory investigations

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FOLIC ACID IN THE TREATMENT OF TROPICAL SPRUE

By

Surgeon Lieutenant J M CLIFF R N

The following case of tropical sprue is reported because of both its dramatic response to folic acid and the reversal of an achlorhydria present on admission

Case History—An E R A aged 24

This patient with eight years service was admitted to hospital on 29th November 1949 with a history of a gradual loss of weight over a period of four years frequent loose stools for six months and lassitude for about three months He [illegible] complained of a sore tongue and shortness after admission He had left the United Kingdom in June 1947 and served on the Far East Station until his return in September 1949 which showed he had had an acute attack of enteritis in July 1948 and was in hospital for two weeks (there were 10 other similar cases in the same Establishment at the time) but there had been no further bowel disturbance until May 1949 when he began to pass four or five loose pale bulky stools daily his appetite had been good though he vomited this and there had been no nausea or vomiting He had lost a considerable amount of weight (160 lb on 5th May 1948 and 140 lb on admission to hospital)

On Examination—A thin pale dark skinned man tongue clean moist and rather smooth B P 114 64 heart sounds muted No abnormality detected in clinical examination of the chest abdomen or central nervous system

The day after admission he passed one large soft stool containing pale mucous stool

Investigations—Blood Count R B C 1 960 000 W B C 2 600 Hb 46 per cent of normal Index 1 71 polys 44 per cent eosins 2 per cent lymphos 50 per cent monos 4 per cent marked anisocytosis many pale hypochromic macrocytes some megalocytes one myelocyte seen

but no anal bleeding [illegible] Reticulocytes 0 66 per cent ESR (W [illegible]) [illegible] in one hour PCV 23 per cent Fats in feces Total fat 35 2 per cent [illegible] neutral fat and free fatty acid) 14 per cent free fatty acid 10 per cent [illegible] 0 02 per cent [illegible] fat 5 06 per cent Fractional test meal—achlorhydria [illegible] loss of 138 mg per cent Serum calcium 12 mg per cent serum phosphorus (inorganic) 3 6 mg per cent Plasma proteins 8 grammes per cent Wassermann and Kahn precipitation reactions negative Urine—S G 1010 and light brown [illegible] albumin [illegible] microscopic [illegible] and fairly fair number of leucocytes and a few epithelial [illegible] in the urine sediment

The patient left hospital in great pain but low in hemoglobin [illegible] and folic acid [illegible] Case is started on 4 12 49 and the table shows that [illegible] in the blood [illegible] with a maximal reticulocyte response of 9 56 per cent [illegible] hemoglobin [illegible] in after formed stool was passed on the same day and [illegible] appearance a week later

In view of the sterile acid pyuria and some dysuria [illegible] conditions were carried out to exclude urinary tuberculosis [illegible] negative for tubercle bacilli a culture was sterile after [illegible] weeks after incubation revealed no evidence of other [illegible] shortened normal G U tract excluded abdominal [illegible] The [illegible] disappeared spontaneously the urine being clear by 23 12 49

Treatment with folic acid was stopped on 6 1 50 when the blood [illegible] After [illegible] months sick leave a further blood count was normal [illegible] acid test meal showed acidity slightly raised in the first hour but still [illegible] The patient gained [illegible] weight in less than three months

Discussion

The literature contains many conflicting opinions on the gastric acidity in tropical sprue while some series have been reported with a large proportion of cases showing histamine-fast achlorhydria in others many cases have shown a normal or high gastric acidity Bovaird (1921) found achlorhydria or hypochlorhydria in 7 (54 per cent) of 13 cases Bastedo and Tumulener (1923) noted achlorhydria in 2 (25 per cent) of 9 cases Baumgartner and Smith (1927) reported achlorhydria in 5 (33 per cent) of 15 cases and Castle *et al* (1935) recorded a series of 65 cases where there was a histamine fast achlorhydria in 20 (31 per cent) The significance of these findings was demonstrated by Fairley *et al* (1926) who found hypo or achlorhydria in 15 (57 7 per cent) of 26 cases and they considered that the percentage of low acid curves would have been higher if all the cases had been untreated or in relapse moreover they noted that treatment could restore a normal gastric acidity just as a superadded sprue infection might convert a hyperchlorhydric curve into one of hypo acidity anacidity or even achylia gastrica In a further report Fairley (1930) 5 cases out of 18 showed a histamine fast achlorhydria but after treatment a further test meal on 3 of the 5 cases showed that 2 responded to histamine It is therefore evident that the restoration of gastric acidity is not unusual and perhaps the only clinical value of a fractional test meal in this disease lies in the fact that diminished gastric acidity may be held to be an indication for oral acid medication

The remarkable response of tropical sprue in Cuba to folic acid medication was demonstrated by Garcia Lopez *et al* (1946) and also by Spies *et al* (1946) who reported 9 cases in detail With folic acid in doses varying between 10 and 200 mg per day a reticulocyte response of 12 15 per cent to 26 2 per cent was obtained with a peak on the sixth to ninth day It was suggested that a dose of

10 mg. folic acid [illegible] gave a satisfactory response [illegible] treatment with folic acid their [illegible] bone marrow a red blood [illegible] reticulocyte count which [illegible] with diarrhœa and [illegible] found to have a normal or increased gastric [illegible]

Many similar reports have appeared but [illegible] there was little improvement in the blood picture [illegible] (diarrhœa control, increased appetite and improved general [illegible] excellent. They considered that their haematological findings [illegible] obtained in Cuba because in those series there were the other [illegible] nutritional deficiency and intestinal parasites. A further difficulty [illegible] fact that the Edinburgh cases had had previous treatment (liver [illegible] and vitamins) and the average red cell count before the administration [illegible] and was about the same as that reported in both Cuban series [illegible] folic acid therapy. Folic acid is therefore a reliable agent in [illegible] of tropical sprue in relapse and the full clinical picture of severe [illegible] anæmia, glossitis and bulky stools continuing in excess of [illegible] cannot always restore a normal blood picture in cases where the [illegible] already approaches normality there is remarkable relief of symptoms.

TABLE

	R.B.C.	W.B.	H. %	Colour index	Icterus index	Bilirubin	[illegible]	[illegible]	[illegible]
1.12.49	1,960,000	2,600	46	1.21	44	2	[illegible]	1	
4.12.49	—			—	—				1
6.12.49	1,760,000	—		—					
8.12.49	1,680,000	4,600	42	1.32	37	2	[illegible]	[illegible]	[illegible]
10.12.49	2,460,000	—	63	1.31					[illegible]
12.12.49	—	—							[illegible]
14.12.49	2,410,000	5,200	60	1.25	52		[illegible]	[illegible]	[illegible]
21.12.49	3,830,000		75	0.98		—			[illegible]
28.12.49	3,940,000	—	85	1.09	—				[illegible]
4.1.50	4,920,000	7,600	95	0.96	57	1	[illegible]	[illegible]	
9.2.50	4,680,000	4,800	95	1.03	48		[illegible]	4	

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PERFORATING WOUNDS OF THE SCLERA

BY

Surgeon Commander W. M. HAMILTON, R.N.

I have recently seen 2 cases of perforating wounds of the sclera; the [illegible] memories with the outline of correct treatment may be of some help to [illegible] Medical Officer who may come across a case at sea.

The first case was that of a young Stoker Mechanic who lost his eye. The second was that of an old dockyard employee whose eye was saved. Both had normal uncorrected vision and normal fundi when first seen.

Case 1.—The Stoker Mechanic was using an electric hammer in the engine room when a metal bolt hit his left eye. The accident occurred at 1400. The patient was removed to sick bay owing to intense pain; the case was then discharged to [illegible] where he was seen five hours after the injury had occurred.

There was an external indent of a scleral wound, and it was assumed that the wound had healed in the interpalpebral region. Later the eye became infected and it was obvious that a full penetrating wound of the sclera had occurred.

The question arises as to whether a sub-conjunctival injection of penicillin would have saved the eye. In my opinion the infection was too acute for a sub-conjunctival injection to have had any help.

Case 2.—The dockyard employee sustained an injury from a piece of clean hot metal while chipping. He had brushed the piece of metal out of his eye owing to the discomfort. The accident occurred at 1400 and was seen at 1130 and the patient was on the operating table at 1400.

4 per cent cocaine drops and 2 per cent procaine (1.5 cc.) injected retrobulbarly. Sub-conjunctival penicillin powder (100,000 units through a fine filter) spread over scleral wound. Powder is preferred to solution as the latter increases the tissue and intraocular loss. Conjunctiva was closed with a purse string suture over sutured perforation from which the iris is leaked with the slightest pressure. Penicillin intramuscularly—500,000 units stat. and 300,000 units six hourly for three days.

Healing was rapid and visual acuity was 6/6. The operation could be performed under general anæsthesia which might be much easier in a ship.

These two cases do illustrate the danger of a perforating wound being overlooked as a result of comparatively trivial accidents and in view of the value of modern chemotherapy it does raise the question as to whether an early sub-conjunctival injection of penicillin solution or application of the pure powder where a perforating wound is suspected might be of great help in saving the eye.

My thanks are due to the Medical Officer in Charge, R.N. Hospital, Chatham for permission to publish these two cases.

SURGERY AT SEA—YET AGAIN

BY

Surgeon Commander J. H. MITCHELL, R.N.

I am quite definitely on the side of those who hold that surgery at sea is rarely necessary and that it certainly should not be embarked upon lightly.

In one ship during the past two years, however, the following cases did appear to call for immediate surgical interference.

INJURIES [illegible]

At 1815 one evening an aircraft [illegible] caused considerable chaos in the deck park. Cases 1 and 2 [illegible] wing aircraft. The ship was some eighteen hours from Malta [illegible] with all possible dispatch.

The cases were then transferred to [illegible] subsequent progress was satisfactory.

Case 1.—Petty Officer, aged 34.

The injuries were (*a*) rupture of internal [illegible] left knee.

(*b*) Laceration of scalp—in effect [illegible] wing, a posterior pedicle about 2 in. [illegible] and the bone surface was matted with dispersed debris. [illegible] cranial damage.

Operation under sedation and local anaesthetic [illegible] excision and suturing.

Case 2.—Naval Airman, aged 19.

This case was probably struck by [illegible] wing. [illegible] the scalp [illegible] frontal [illegible] exposed and showed two parallel [illegible] of the skull [illegible] bone was depressed [illegible] right orbital [illegible]

Operation was performed under local [illegible] behind the fracture [illegible] so that the [illegible]

The [illegible] was [illegible]

Case 3.—[illegible] Mechanic, aged 18.

[illegible]

When [illegible] with [illegible]

[illegible]

[illegible]

Operation [illegible] under [illegible]

On [illegible] which [illegible] The abdomen was [illegible] dark [illegible] were no [illegible] bleeding.

[illegible] were palpated and an abnormality [illegible] felt.

[illegible] bruises but was intact. Exploration [illegible] complete the [illegible] and edges were then freely [illegible] throughout all [illegible] drainage tube was inserted—this was [illegible] turned on third and [illegible] fifth day.

P[illegible] considerable intraperitoneal fluids (only small specimens being allowed [illegible] bicarbonate and bicarbonate and from second to fifth day subtilis sulphate [illegible] day onwards [illegible] adrenalin [illegible] added [illegible] of [illegible] Although vomiting was not marked and [illegible] passed in general [illegible] until the seventh day and although there [illegible] and hot [illegible] and hard and at times weak sounds—very the general [illegible] passed temperature, pulse and respirations [illegible] 104 [illegible] 100·2, 100·8) on the third day. There was [illegible] pain [illegible] intense—more than morphine [illegible] expected to cause.

On the eighth day [illegible] abdomen (surgical wound) was distended [illegible] anæsthesia this was [illegible] relieved by mattress stitches of the blind. No [illegible] bowels were [illegible] by mouth were stopped.

On the tenth day [illegible] operation to consult the Plymouth surgical specialist [illegible] [illegible] red the [illegible] and but recommended [illegible] month being [illegible] [illegible] blood [illegible] was done [illegible] the [illegible] full [illegible] healthy [illegible] of healing [illegible]

The patient died on the thirteenth day.

Post Mortem Examination.

The track of the original bullet wound was [illegible] with [illegible] inflammation [illegible] serious [illegible] damage in the muscular wall of abdomen and over the left [illegible] large quantity of altered extravasated blood.

[illegible] damaged muscle and extravasated blood [illegible] the [illegible] There was no evidence of [illegible] in the right parietal [illegible] Both [illegible] with [illegible] of [illegible] peritonitis generally [illegible] pale [illegible] 6 inch length of small intestine—one foot [illegible] from the [illegible] the [illegible] and lying in the pelvic [illegible]—were [illegible] and [illegible] There was a large gelatinous easily [illegible] two fingers [illegible] in the [illegible] There were extensive plastic [illegible] the dark [illegible] in the peritoneal cavity [illegible] much [illegible] [illegible] and the left 6 inches. Capsules were adherent and [illegible] and [illegible] With the exception of some [illegible] congestion of [illegible] other contents were normal.

[illegible] Sick Mechanic aged 19.

Sailor [illegible] from Plymouth.

While [illegible] trying to lower a deadlight during a force 10 gale the rating was struck [illegible] and had been hurst upon by the sea. He was brought to the Sick Bay in [illegible] condition. He had a deep wound in left temporal region with a [illegible] the bone. Vomiting was frequent but there was no [illegible] [illegible] urge. The leg was subsequently have to necessitate a [illegible] during [illegible] [illegible] bones in [illegible] and conditions were unpleasant. The [illegible] of [illegible] and irregular and was freely excised. The posterior [illegible]

[illegible] with silk gaiters. Many small splinters of bone were [illegible] [illegible] tables appeared to be normally aligned. The wound [illegible] [illegible] and with tension.

On [illegible] at Plymouth this case was sent to hospital. [illegible] his progress was uneventful.

Case 5.—Able Seaman, aged 22.

[illegible] communications [illegible]

[illegible] on board [illegible] left leg [illegible] spasm of his flexed thigh.

On admission general [illegible] unless. Tips of all fingers [illegible] and 1½ fingers [illegible] (1) [illegible] above and [illegible]

X-ray showed an open [illegible] and [illegible] comminuted open [illegible]

Operation was [illegible]

The upper wound was [illegible] contused. Bruised muscle [illegible]

The lower wound [illegible] piece of bone [illegible] There were many small foreign [illegible] and many [illegible] flexor muscle [illegible] long [illegible] possible [illegible]

After irrigation with [illegible] sulphanilamide [illegible] approximated [illegible]

On the fourth post [illegible] the [illegible]

[illegible] was not inflamed and [illegible]

The patient was transferred to H.M.H.S. [illegible]

When he rejoined the ship some weeks [illegible] and [illegible] was fully ambulant [illegible]

The patient underwent operation with the [illegible] small [illegible] and [illegible] and [illegible] discharge. He was [illegible] the sight of which [illegible] consult him [illegible] an intelligent type.

Abdominal Emergencies

Case 6.—Boy, aged 17.

Ship left eight hours from Malta.

This was a typical acute appendicitis with a ruptured [illegible] upon and landed two days later.

Subsequent progress was uneventful.

Case 7.—Lieut. R.C.N., aged 27.

Owing to operational commitments ship [illegible]

This typical acute appendicitis with [illegible] discovered and operated upon about six hours later. There [illegible] in the peritoneal cavity. The appendix was easily [illegible] interval was necessary. The appendix was [illegible] walls is in the end but not perforated.

For twenty-four hours after operation patient [illegible] Then however he developed ruptured and [illegible] frankly fecal material being aspirated through [illegible] grossly distended and absolutely silent. Intravenous fluids [illegible]

[illegible] junior medical officer [illegible] surgery [illegible] given throughout

On [illegible] the fifth day there was [illegible] As a destroyer (Australian) was returning to harbour next morning it is decided to transfer the case—to the Surgeon Lieutenant. The attendant risks were accepted because

(1) There was a possibility of mechanical obstruction and so of further surgery being [illegible]

(2) It was by no means certain that the Miller Abbott tube had passed into the gut [illegible] population with radiological control was not possible on board

(3) [illegible] four hours steaming in a destroyer which could take case alongside was likely to be so very much more harmful than the alternative of three quarters of an [illegible] hour some three days later

[illegible] the decision to transfer was made transmitted impulses from the balloon [illegible] were felt for the first time. Next morning there was a very slight [illegible] in general abdomen and the fecal aspirate was a little less darker and less [illegible] The case was transferred smoothly by car with the tube in situ

[illegible] There was rapid improvement—and hence, paired *per rectum* that night [illegible] In hospital X ray showed the tube [illegible] well down the ileum. From [illegible] was uninterrupted

[illegible] It is worth that [illegible] setting up the apparatus for continuous suction reference [illegible] Fig. 134 in Hamilton Bailey's Emergency Surgery (5th Edition)

[illegible] stasis by results the aspirate [illegible] should be far less than the [illegible] B

[illegible] EMF3 USN aged 29

[illegible] days from hospital

[illegible] is visited in his destroyer escort (no medical officer board) as appendicitis [illegible] He was diagnosed as a perforated peptic ulcer and was transferred [illegible] immediate operation which was started about second [illegible] perforation [illegible]

[illegible] the peritoneum much [illegible] and [illegible] considerable quantity of [illegible] fluid. A small perforation was found just above the attachment of the [illegible] mesentery to the pelvis

[illegible] there operation there was the signs [illegible] generalized peritonitis. Established penicillin and sulphonamides had no apparent effect. There [illegible] and minimal improvement. [illegible] administration of morphine

[illegible] 9 [illegible] Xmas aged 71

[illegible] operation and [illegible]

[illegible] appendicitis [illegible] the [illegible] the [illegible] the [illegible] the right [illegible] This was not [illegible] [illegible] the [illegible] the [illegible] without [illegible] [illegible] A [illegible] the [illegible] Massive [illegible] The appendix [illegible] drawn [illegible] with the thick [illegible] the [illegible] which passed beneath the [illegible] and appeared [illegible] the ileum. A section [illegible] and the appendix removed. During [illegible] subsequent convalescence the appendix stump was left [illegible] The appendix still was normal in appearance

[illegible] operative progress was [illegible] After the [illegible] 8th day [illegible] was not palpable but then reappeared. An opportunity [illegible] the case [illegible] H.M.S. *Maine* rose on the eighth day. [illegible] urinary symptoms ceased and the [illegible] was a kidney

During this same period 6 cases of appendicitis were treated medically

In our [illegible] there is a strict regime of [illegible] with intravenous [illegible] and chemotherapy instituted. It [illegible] noted that this case required this routine as otherwise he [illegible] noted a force 10 gale (Atlantic) on third post operative day.

In cases 1, 2 and 3 Surgeon Lieut. (Commander) I. S. [illegible] *MBE*, R.N. was the surgeon and in cases 5 to 9 Surg. Lieut. I. B. Crawford, R.N.

I wish to acknowledge my indebtedness to them for their skill and furtherance towards the anaesthesia.

This article is published by the kind permission of Captain I. A. K. Monro, R.N. and the Medical Director General of the Navy.

ROYAL NAVY MEDICAL CLUB
Annual Meeting 1952

THE Annual Meeting and Dinner of the Royal Navy Medical Club took place at the Trocadero Restaurant, London, on Friday, 28th March, 1952, under the chairmanship of the Medical Director General, Surgeon Vice-Admiral Sir Edward Greeson, *KBE, CB*, QHP. The Medical Director General and Surgeon Rear Admiral A. E. Malone, *CB*, President of the Club, welcomed members and guests who numbered 164. After the reception and Annual Business Meeting in the Renaissance Room, dinner was served in the Empire Suite. The Loyal Toast having been honoured, the Medical Director General rose to propose the toast of "The Club", pointing out that this meeting was the 40th anniversary of its foundation. The purpose of the Club was to unite service friendships once a year and to enrolle members to make new friends on the active, reserve and retired lists. In order that the Club should continue to flourish it was important that a regular steady recruitment of new members should be forthcoming. The Director remarked that the financial obligations were small and the benefits to be derived from Life Membership very considerable. Sir Edward also spoke of his impending retirement and said that it was a source of great satisfaction to him that the liaison between the Medical Branches of the Fighting Services had never been more intimate than it was at that moment. The toast of "The Guests" was proposed by Surgeon Commander J. M. Holford who made pertinent references to the personalities and hobbies of each Official Guest. Lieutenant-General Sir Neil Cantle, in reply, endorsed as Director General of Army Medical Services the remarks of the Chairman on the close co-operation existing between the Medical Branches of the Services. He mentioned that he was also during to retire and expressed relief that his fellow Aberdonian, Sir Edward Greeson, had forsaken the R.A.M.C. for the Royal Navy thus permitting both to become Directors General

[illegible] Sandwich. After dinner the Master [illegible] the Loyal Toast, [illegible] the social attitude [illegible]

PRESENT

Chairman

[illegible] Sir Edward Gillespie *K.C.B.* [illegible] R.N.

Masters of the Bench

[illegible] Sir Richard McCreagh *C.B.E.* [illegible]
(Late Sick Leave)

[illegible] Sir Alfred Morris *K.C.B.* [illegible]
(Royal Sick Leave)

Sir John Charles
(Late Medical Officer Ministry of Health)

[illegible] J. W. R. Slayter *C.B.* *D.S.O.* *D.S.C.*
(Naval Commanding Reserves)

[illegible] Sir Neil Cantlie *K.B.E.* *C.B.* *M.C.* *Q.H.S.*
(Director General Army Medical Service)

Air Marshal J. M. Kilpatrick *O.B.E.* *Q.H.P.*
(Director General Medical Services Royal Air Force)

The Venerable Archdeacon L. Coulshaw *C.B.*
(Chaplain of the Fleet)

W. G. Senior Esq. *Ph.D.* *F.D.S.*
(Chief Dental Officer Ministry of Health)

Major General J. Wren, *F.D.S.* *Q.H.D.S.*
(Director General Army Dental Services)

[illegible] G. A. Ballantyne *C.B.E.* *D.F.C.* *Q.H.D.S.*
(Director General Dental Services Royal Air Force)

Members Guests included

Sir [illegible] Peterson Ross *K.C.I.O.* *M.S.* *F.R.C.S.*

[illegible] R. W. Snow Esq. *O.B.E.* *D.Sc.* *M.D.* *F.R.C.P.* *F.R.S.*

Professor [illegible] C. Wilkinson *M.D.* *D.D.Sc.* *F.D.S.*

Members this present included

[illegible] Surg. Capt. [illegible] J. Barrett *M.R.* Esq. *F.R.C.S.* Beach Surg. Cdr. W. S. *N.H.* Beattie Surg. Capt. W. J. Belchin Surg. Cdr. H. L. Bennett Surg. Cdr. H. J. [illegible] W. D. W. [illegible] *F.R.C.P.* Brownhill Surg. Rear Admiral O. D. *C.B.* *O.B.E.* [illegible] H. J. Esq. *F.R.C.S.* Byrne Surg. Capt. P. N. *O.B.E.* Cassidy Surg. Capt. [illegible] *C.B.E.* Clark Surg. Capt. A. B. Clerke Surg. Cdr. H. L. Clelland W. [illegible] *F.R.C.S.* Cliff Surg. Lieut. J. M. Collins Surg. Cdr. C. P. *D.S.C.* Colson Surg. Vice Adm. [illegible] *K.C.B.* *C.B.E.* Colliver Surg. Cdr. J. L. S. *D.S.C.* Crawford Surg. Capt. [illegible] Dawson Surg. Capt. J. H. B. Cox A. G. Esq. *F.R.C.S.* D'Arcy Surg. Rear Adm. [illegible] S. *C.B.E.* Dennis Surg. Lt. Cdr. W. O. G. Dick Surg. Lt. Cdr. H. D. Dixon [illegible] *O.B.E.* Ellis Surg. Cdr. J. P. *O.B.E.* Emberson Surg. Cdr. (D.) J. C. [illegible] Esq. *F.R.C.S.* Fitzpatrick Surg. Capt. (D.) C. J. Ford Surg. Lieut. R. Kelsey [illegible] Surg. Lt. Cdr. J. D. J. Geoghegan Surg. Lt.-Cdr. B. Gill Surg. Lt. Cdr. W. C. [illegible] S. H. *C.B.E.* Cdr. D. R. J. Graham Taylor Surg. Cdr. *K.B.E.* *C.B.* [illegible] Surg. Vice Adm. Sir [illegible] *K.B.E.* *C.B.* *Q.H.P.* Gunn Surg. Cdr. A. J. [illegible] Surg. Cdr. D. L. [illegible] Surg. Rear Adml. J. *C.B.E.* Hardman Surg. Cdr.

G L Hussey A H Esq F R C S Hilton Surg Cdr (D) M H [illegible] *C B E* Hodgson Surg Cdr (D) W *O B E* Hollis Surg Lt Cdr H H [illegible] W A *O B E* Hull Surg Rear Admiral H R R *C B* Hunt Surg Rear Adml [illegible] *C B C B F* Hunt Surg Capt (D) T [illegible] (D) V B Jackson Surg Cdr P B Jenkins Surg Cdr S John [illegible] Johnston Surg Lt Cdr W Jones Surg Capt A E B Kelly Surg Cdr [illegible] *D S C* Kenehan Surg Capt D H Lancashire Surg Cdr R W C Lee Surg Cdr J Lewis Surg Cdr C W *I R D* McGrath Surg Capt C *O B E* *I R D* Q H P Macdonald Surg Cdr I C Macgregor Surg Lt Col I W Mahon Surg Capt W P E Mackenzie Surg Rear Admiral K A I *C B* Q H P McBride Surg Capt A W *C B E* Malone Surg Rear Admiral A L *C B* Martin Surg Cdr F I Martin Surg Cdr C *I R D* Mawer Surg Cdr (D) S Middleton Surg Rear Admiral N S *D S O* Miller Surg Lt Cdr S J H Moore Surg Capt M S Morris Surg Capt W J Mussen Surg Rear Admiral R W *C B E* Nicholls Surg Cdr J H Organ W C Esq M D Panckridge Surg Capt W R S Paul Surg Lt Cdr R A F Pearson Surg Cdr C J F Place Surg Capt (D) J D *O B E* Pollard Surg Capt F B Rees Surg Cdr J M Robinson Thomas Surg Capt A Ross Surg Cdr M T Rutlands Surg Adml *K B E* Rudd Surg Capt E T S Sandley J G Esq F R C S Smith Perkins Surg Cdr D D Turtle Surg Cdr P de B Vaughan Jackson Surg Lt Cdr O J Vaughan Jones Surg Lt-Cdr R Vickery Surg Capt C C *O B E* Wilcox Sir Cecil *K B E* *C B* F R C S Walsh Surg Cdr D J Walsh Surg Capt C D Walsh Surg Capt V F Walker Thomas F W Esq F R C S Willan Surg Rear Adml Whitteridge Surg Cdr S M Williams Surg Capt (D) F R P *C B E*, Williams N Noble F A Esq F R C S Willoughby Surg Capt H M *I R D* Wolfe Surg Lt Cdr H R I Woolley Surg Lt-Cdr E J S *O B E* Wrigley A J Esq F R C S

Reviews

Fractures and Joint Injuries. By Sir Reginald Watson Jones B Sc M Ch Orth F R C S F R A C S (Hon) F A C S (Hon) Director of Orthopaedics and Accident Surgery, London Hospital Senior Surgeon of the Robert Jones and Agnes Hunt Orthopaedic Hospital Consultant Orthopaedic Surgeon to the Royal Air Force, etc Volume I Fourth Edition 1957 Pp 443 with 289 illustrations (some in colour) Edinburgh E & S Livingstone Ltd Price 120 Rs per set

Reviews of new publications in general have to be given a further dimension when this particular publication is concerned, since it may be regarded as a fitting tribute to the memory of its predecessors have been, and continue to be, the large number of students throughout the world who have found in them a source of inspiration and knowledge. And for this new edition in printing that inspiration is even more marked than ever, with its knowledge and information so up to date.

The first volume of the present edition is devoted to the fracture and the gracious acknowledgement of the inspiration of the author of the embodies in his own excellent opinion. The effect of the author's work in the field of fracture study, bacteriology and clinical therapeutics, with their bearing on the treatment of fracture, deals with in a most enlightening fashion. Full references are included.

The author will be the surgeon, and the first impression of the book is the post war year the quantity of physical surgery has been the whole [illegible] otherwise good treatment surgeons. It is a pity that the [illegible] time outside the scope of an orthopaedic surgeon, and should be [illegible] surgeon. If a surgeon knowledge of physiotherapy [illegible] publication and would be [illegible] with skin grafting, [illegible] skin grafting

[illegible] snigeri

In [illegible] the book is beautifully produced [illegible] The illustrations [illegible] them [illegible] and the X ray pictures are of unsurpassable clarity in digestible [illegible] of knowledge in this book Many surgeons and patients have been and [illegible] from [illegible] by the existence of this book

Essentials of Neurosurgery By Leslie C Oliver F R C S Eng Neurosurgeon [illegible] Royal Hospital for Nervous Diseases London Royal Northern Hospital [illegible] General Hospital Southend on Sea Surgeon in Charge Neurosurgical [illegible] Oldchurch Hospital Romford Essex Honorary Neurosurgeon to the French Hospital London First Edition 1952 Pp xiii + 198 50 illustrations London H K Lewis & Co Ltd Price 25s Od

The author of this small book on the surgery of the central nervous system [illegible] thus it is intended is a guide to neurosurgeons in training and as an aid to candidates reading for higher surgical examinations For the latter purpose it should prove [illegible] worth inasmuch as it summarizes much valuable information without any elaborate padding For the budding neurosurgeon however there is nothing like enough detail The chapters on Head Injuries and the Investigation of Intracranial Tumours are among the best but some of the X rays could be of higher quality

While acknowledging the author's particular interest in the surgical treatment of Parkinsonism rather too much space and prominence is given to this subject in relation to many other aspects of neurosurgery It is as an aid to study for higher examinations that it will be found to be of greatest value

Synopsis of Tropical Medicine By Sir Philip Manson Bahr Second Edition 1952 Pp 248 with 7 plates London Cassell & Co Price 15s Od

This book is an attempt to provide a guide in tropical medicine for the benefit of those who may be called in the tropics at short notice Certainly the amount of knowledge which has been condensed into 250 odd pages is astonishing Possibly the condensation has been too much if the object was in some space the sections on such temperate climate as enteric fevers intestinal worms and mushroom poisoning might have been omitted Although it might have been possible to describe in greater detail the more important tropical diseases

The present volume cannot compete with the authors Tropical Diseases and anyone [illegible] practise in the tropics but the first mentioned should read the larger book The [illegible] will be most valuable to those who have some experience already and whose [illegible] are strictly limited

Clinical Radiology of the Ear Nose and Throat By Eric Samuel M D Lond F R C S Eng F F R Lond D M R E Camb Late Hon Radiologist the Middlesex Hospital London Late Radiologist Royal National Ear Nose and Throat Hospital [illegible] Colonel R A M C Adviser in Radiology to the Army First Edition 1952 Pp 339 with 320 illustrations London H K Lewis & Co Ltd Price 70s Od

This book the author aims at correlating to cancer form the mass literature which has appeared during the past two decades scattered throughout many journals some of which are studied seldom by the practising radiologist

A comprehensive and well produced volume describing the normal and pathological appearances seen in the ear nose and throat

The book is divided into three sections the first which deals with the nose and paranasal sinuses the first part of this section describes the radiographic radiological [illegible] and development of these areas Following this is a description of the pathological changes affecting the nose and sinuses with special reference to the mass pitfalls which may arise due to shadows thrown by soft tissue structures superimposed bone shadows etc Under the heading Traumatic lesions including the paranasal sinuses

[illegible] the effect of high altitude [illegible]

The second [illegible] the auditory apparatus and is again subdivided into radiological [illegible] and anatomy and finally pathological changes. An excellent line [illegible] illustrating the relative position of anatomical structures as [illegible] radiological projections. A description is also given of the diseases affecting the middle ear traumatic and inflammatory lesions of the mastoid process and a comprehensive account of tumours affecting the ear mastoid process and petrous bone.

The third section describes the pharynx and larynx and here again the radiological technique of investigation with and without contrast media is first discussed. Attention is drawn to the value of tomography as a means of investigating the larynx. Inflammatory diseases and non malignant lesions are well described and the volume finishes with a very full account of tumours of the pharynx and larynx.

Throughout the whole book the text is richly illustrated by a large number of excellent and well reproduced radiographs. Full references are given at the end section for those interested in more detailed study.

The book is easy to read extremely well illustrated and can be recommended as a most admirable addition to the radiologist's library.

ESSENTIALS IN DISEASES OF THE CHEST FOR STUDENTS AND PRACTITIONERS. By Philip Ellman M.D., F.R.C.P. With foreword by Sir Robert A. Young, C.B.E., M.D., F.R.C.P. 1952. Pp. xiv + 400. London: Geoffrey Cumberlege, Oxford University Press. Price 30s. 0d.

The author of this new book is well known as a consultant teacher, writer and most important a practising chest physician. Therefore anything he has to say is worth reading, for it is based on personal practical experience. It is confirmed that the book should fill the Essentials which students and practitioners require. One was struck by the emphasis which Dr. Ellman places on the often forgotten basic principle of good history taking and general physical examination.

The book is up to the world high standard. Oxford University Press production and illustration thoroughly have a wide circulation.

PRACTITIONER'S PICTURES. The Practitioner Handbook. Edited by Sir Heneage Ogilvie, K.B.E., D.M., M.Ch., F.R.C.S., and William A. R. Thomson, M.D. Enlarged 1951 Edition. Pp. 380. Plates and Illustrations 89. London: Eyre & Spottiswoode. Price 25s. 0d.

Reviewing this book has proved to be an easy and pleasant undertaking, and the production of this guide is the most valuable. This book is thoroughly recommended to all medical officers and especially to those with hospital wards in their care.

INTERNATIONAL SANITARY REGULATIONS. Proceedings of the Special Committee and of the Fourth World Health Assembly on WHO Regulations No. 2. Official Records, 44 the World Health Organization, No. 3. Pp. 443. Price 16s. 3d. $2.75. Fr. fr. 28. Sw. fr. 9. Also published in French.

The volume—No. 3 in the WHO Official Records series—consists of two parts, with an introduction which traces the history of international quarantine and gives examples of the confusion which has hitherto resulted from the coexistence of a multiplicity of sanitary conventions. It is pointed out that the new Regulations are concerned in a way which permits both of simple and elaborate applications by governments and of rapid results in dealing occasions dictated by the World Health Organization or its agents. The introduction goes on to describe the work in the development of the Regulations, the initial preparation by the WHO Expert Committee on International Epidemiology and Quarantine, the subsequent consideration by Special Committees of the Third and

Fourth World Health Assembly and finally their adoption by the Fourth World Health Assembly on 15th May 1951

Containing as it does a detailed account of the proceedings leading to the adoption of the Regulations the volume provides at the same time valuable background information on the considerations and principles on which they are based—particularly the fundamental principle of maximum security against the introduction of pestilential diseases with a minimum interference with international traffic

INTERNATIONAL STANDARDS FOR PHARMACEUTICAL PRODUCTS World Health Organization Technical Report Series No 50 Pp 33 Price 2s 0d $0 25 Fr fr 80 Sw fr 1 Available also in a French Edition

The ninth report of the WHO Expert Committee on the International Pharmacopoeia has just been published as No 50 in the Technical Report Series of the World Health Organization

The preparation of Volume II of the Pharmacopoeia International (Ph I) is discussed the report states that 134 monographs on pharmaceutical preparations and 9 appendices containing analytical methods etc have been completed up to the present time The first annex to the report summarizes the work allotted to various members of the committee—preparation of draft monographs and carrying out of experimental investigations the second annex gives a list of monographs and appendices submitted for inclusion in Volume II

The Executive Board has approved a resolution inviting the Director General of WHO to take the steps necessary between the States signatories to the Brussels Agreements for the unification of pharmacopoeial formulae for poisonous drugs to terminate these agreements The text of a draft Protocol for this purpose is contained in a third annex

The fourth annex is devoted to the third report of the committee's sub-committee on non proprietary names In discussing the problem of the protection of international non proprietary names, the sub committee suggested that manufacturers seeking new names should approach WHO through national pharmacopoeia commissions or national administrations The importance of having the names selected on an international level by WHO in the first instance is stressed in the report An appendix contains a list of the Latin English and French international non-proprietary names together with the appropriate chemical names or descriptions agreed upon at the sub-committee's third session

CAUSES AND DEATHS FROM NOTIFIABLE DISEASES World Health Organization (1952) Annual Epidemiological and Vital Statistics 1939 1946 Geneva Part II Pp 202 Price £1 $4 00 Fr fr 1 300 or Sw fr 16

Part II of the Annual Epidemiological and Vital Statistics 1939 1946 published by the World Health Organization

Part I contains Vital Statistics and Causes of Death which was published in 1951 lists the men of countries and their population and gave data on mortality natality infant mortality (general infant and neonatal) as well as on causes of death

Part II contains information on cases and deaths from notifiable diseases There are some thirty such diseases ranging from plague to puerperal infection and including the rickettsioses malaria leprosy syphilis influenza and the communicable diseases of childhood Figures for cases and deaths are given for more than 150 States or territories

The importance of this work for all those interested in health statistics in the road of communicable diseases throughout the world is obvious This is at present the only official source of such information covering so large a number of countries particularly during the war years for which it has been hitherto impossible to collect coherent information

In preparing this volume daily revised data from official publications were used as well as replies to questionnaires addressed to national health administrations and statistical offices

[illegible] is presented [illegible] and per[illegible] [illegible] following [illegible] for each [illegible] [illegible] deaths per [illegible] number of [illegible] per[illegible] [illegible] include [illegible] data available in the [illegible] [illegible] unduly [illegible] figures [illegible] [illegible] tendencies. [illegible]

A synoptic table [illegible] [illegible] certain attributes [illegible]

MATERNITY CARE. World Health Organization [illegible] Price 1s 3d $0 15 Fr 1r 50 Sw fr [illegible]

Experience has shown that in [illegible] not be planned in relation to other types of [illegible] to lay down a detailed plan which could be applied [illegible] However certain standards of care are recommended [illegible] the first [illegible] Expert Committee on maternity care which has [illegible] published in [illegible] Report Series of the World Health Organization.

The teaching of parentcraft is [illegible] of the young people who are primarily [illegible] giving simple and straightforward instruction [illegible] should also have a sound [illegible] but that is a number of [illegible] developed countries [illegible] the family [illegible] in the school.

The economic factors influencing the age of [illegible] sanitation are also discussed. Since the [illegible] marriage is often a [illegible] risks in the risks of childbirth.

The committee examined the [illegible] give birth to children with the difficulty that [illegible] experience. This is often due to psychological factors [illegible] depriving the woman of the moral support which [illegible] attitude to [illegible] delivery. While the continuity [illegible] all abnormal cases should be delivered in a hospital [illegible] and [illegible] difficulty should be encouraged [illegible] actual [illegible] that under certain circumstances [illegible] delivery also offers a high degree of safety.

Optimum standards for prenatal care [illegible] the expectant [illegible] many economically [illegible] separated [illegible] ment should [illegible] to develop the [illegible] mother [illegible] hospital.

Other subjects discussed in the report are [illegible] maternity [illegible] programme [illegible] of the [illegible] help.

INFECTIVE HEPATITIS. By F. O. MacCallum [illegible] Special Report Series No. 273. Pp. 145. [illegible] (HMSO) [illegible]

We are apt to forget that our campaigns against [illegible] dislocated by the severity of the outbreaks of [illegible] spread to the civil population. In May 1943 [illegible] and this Special Report enacts as the result [illegible]

This report is a very full account of the epidemiology [illegible] of infective hepatitis and should be read by [illegible]

[illegible] passed and all [illegible] A [illegible] MB [illegible]

[illegible] *Medicine* By [illegible] *C.B.E.* *M.C.* DM FRCP [illegible] MD FRCP 10th [illegible] Price 37s 6d

[illegible] human appears [illegible] Medicine The scope and [illegible] contributor whose [illegible] The [illegible] helpful book [illegible] subject matter [illegible] Medicine [illegible] MB [illegible]

News of the Service

OBITUARY

[illegible] deaths and extend our sympathy to the relatives

Rear Admiral [illegible] COWANS *C.B.* died on 16th April 1952 Born on 22nd [illegible] 1880 he qualified in 1903 and entered the Royal Naval Medical Service as a Surgeon Lieutenant in Norfolk in 1903 He was promoted to Surgeon Lieutenant Commander on [illegible] 1911 Surgeon Commander on 1st March 1917 Surgeon Captain on [illegible] 1929 and Surgeon Rear Admiral on 8th May 1935 and was placed on the Retired List on 1st July 1939 Surgeon Rear Admiral Cowans was re-employed during the World War as Medical Officer in Charge of R.N. Auxiliary Hospital Nurses [illegible] 1st September 1939 until 13th January 1942 In 1937 he was a Knight of Grace of St John of Jerusalem and in 1939 was awarded the *C.B.* During the First World War he served in H.M. Ships *Lion* *Challenger* and *Ulster* and in 1921 was awarded the Order of St Anne of the Russian Empire for distinguished services in Russian Waters

Surgeon Captain H WILKS R.N. (Ret) died on 13th April 1952 Born on [illegible] he qualified in 1913 and entered the Royal Naval Medical Service as a Surgeon Lieutenant on 1st September 1914 He was promoted to Surgeon Lieutenant Commander on 1st September 1919 Surgeon Commander in September 1926 and was placed on the Retired List [illegible] on 1st January 1932 During the First World War he served in H.M. Ships *St George* *Champion* and Hospital Yacht *Liberty* During the Second World War he was employed at the Patrol Service Depot Portsmouth and at the Royal Naval Barracks Chatham from 24th August 1939 until 12th December 1941

Surgeon Lieutenant (D) I A ROSUN R.N. died on 2nd June 1952 Born on 5th May 1925 he qualified in 1947 and entered the Royal Naval Dental Service as an Acting Surgeon Lieutenant (D) and was confirmed as Surgeon Lieutenant (D) on 27th October 1948 He served in H.M.S. *Illustrious* from 1948 to 1950 and was serving at H.M.S. *Mercury* when he was lost overboard from the yacht *Mew Maid* on 2nd June 1952

Surgeon Commander D. KER, R.N. (Retired) [illegible] October 1885. [illegible] 1904 and [illegible] Surgeon in April [illegible]. He was [illegible] May 1912. Surgeon [illegible] June [illegible] the rank of Surgeon Captain on October 1918. [illegible] in H.M. Ships *Dolphin*, *Hawke* [illegible]

Surgeon Commander W. N. BEAUCHCORD, R.N. [illegible] Born on 23rd October 1874, he qualified in 1899 [illegible] the Royal Navy [illegible] Service as a Surgeon on 21st November 1902. He [illegible] to Surgeon Commander on November 1911. Surgeon Commander [illegible] 1916 [illegible] in the Retired List on 23rd December 1924. During the [illegible] World War he served in H.M. Ships *Jun* and *Pelorus*.

Surgeon Lieutenant Commander C. F. WILLES, R.N. (Retired) [illegible] Born on 28th February 1886, he qualified in 1909 and joined the Royal Navy [illegible] Service as a Surgeon Lieutenant on 4th November 1910. He was promoted to Surgeon Lieutenant Commander in November 1918 and was placed on the Retired List (Medically Unfit) on 8th August 1919. During the First World War he served in H.M. Ships *Newcastle* and *Halcyon*.

Surgeon Captain J. CAMERON, R.N. (Retired) [illegible] 4th May 1952. Born on [illegible] May 1878, he qualified in 1902 and joined the Royal Navy [illegible] Medical Service as Surgeon on 10th February 1906. He was promoted to Surgeon Lieutenant Commander [illegible] February 1914. Surgeon Commander in March 1918, and was placed on the Retired List with the rank of Surgeon Captain in May 1925. During the First World War he served in H.M. Ships *Espiegle* and *Assistance*. From 1925 to 1929 he [illegible] Medical Officer at Manchester.

HONOURS AND AWARDS

Companion of the Order of the Bath

Surgeon Rear Admiral T. McTILL, C.B.E., Q.H.P.

Commander of the Order of the British Empire

Surgeon Captain J. G. Maguire, R.N.

Order of the British Empire

Surgeon Commander D. F. Walsh, R.N.

Member of the Order of the British Empire

Wardle [illegible] S. J. Tribe (Retired).

Royal Red Cross

Miss H. B. Dixon, I.R.R.C., Superintending Sister, Q.A.R.N.N.S.

Associate of the Royal Red Cross

Miss A. M. L. D. Heddle, Superintending Sister, Q.A.R.N.N.S.

PROMOTIONS

Promoted to Surgeon Captain 30.6.52:

Surgeon Commander J. C. B. Crawford, J. C. Gerr.

Surgeon Commander D. F. Walsh.

[illegible]

TRANSFERS TO PERMANENT LIST

[illegible] H R Mallows R N 21 5 52 Surgeon Lieutenant [illegible]

ENTERED FOR SHORT SERVICE COMMISSIONS

[illegible] Wardle M B B S M R C S L R C P 15 5 52 N G B Hersey M B B S [illegible] W N V Taylor M B B S M R C S L R C P 26 6 52 G R C Fisher M B [illegible] T R Lawrie M B Ch B 10 7 52 T R Allen L D S 29 5 52

[illegible] Acting Surgeon Lieutenant J R Kirkpatrick R N V R granted Short [illegible] R N 26 6 52

ADMIRALTY FLEET ORDERS

1190 —Passages—Medical Treatment of Admiralty Personnel on Passage Overseas

1226.—Forms M 75—Infectious Diseases Notification Form—Supersession by F Med.85

1269 —Medical—Reception and Disposal of Invalids (including Civilians) Returned to the United Kingdom by Air

1298 —Victualling Stores for Dental Services (formerly Dental Stores)

1338 —Surgeons and Agents

1525 —Medical—Indian Naval Personnel—Annual Examination and Disposal of Documents.

1609 —Prizes—(a) The Gilbert Blane Medal for Medical Officers R N —1952—Award, (b) The Gilbert Blane Medal for Medical Officers R N —1953—Reports

1684 —Medical Instructions for Naval Aircrew Personnel

1759 —Medical—National Blood Transfusion Service—Co-operation with and Facilities for

1902 —Surgeons and Agents

1961 —Medical Examination of Royal Naval Reservists Reporting for Training

1995 —Dental Stores—Gas Apparatus Nitrous Oxide

2032 —Dental Treatment—Entitlement, Facilities Records, Returns etc and Scale of Fees

2039 —Hospital—Civil Hospitals and Sanatoria—Military Registrars

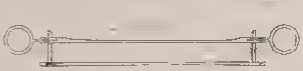
2101 —Establishments—R N Medical Records Depot Watford—Removal

Notice

New Invention

A NEW STOMACH CLAMP

An efficient [illegible] clamp is one which exerts [illegible] pressure [illegible] the whole [illegible] without [illegible] pain. Very few [illegible] clamps at present [illegible] satisfactorily [illegible] constructed [illegible] pressure [illegible] the end of the blades [illegible] portion to the distance from the hinge [illegible] the clamp becomes inefficient. [illegible] to overcome this difficulty but they have [illegible] must be [illegible] successful so long as the [illegible] principle [illegible]



[illegible] clamp described here [illegible] design [illegible] clamp is obtained thereby [illegible] the legs [illegible] Said pin [illegible] the blades [illegible] brought together [illegible] and [illegible] the [illegible] and [illegible] the [illegible] of [illegible] numerous.

[illegible] consists [illegible] pin [illegible] compressed [illegible] pin [illegible] pin [illegible] Stainless steel. When the [illegible] pressed [illegible] the [illegible] to [illegible] blades [illegible]

[illegible] clamp [illegible] easily [illegible] and [illegible] the [illegible] of the [illegible]

When the [illegible] has been completely [illegible] in the usual manner the clamp is applied to the portion [illegible] the [illegible] blades [illegible] the [illegible] completely [illegible] blades [illegible] is placed behind

the stomach [illegible] drawing upwards [illegible] closely applied [illegible] The clamp is placed [illegible] on the stomach [illegible] blades are passed together

After [illegible] from posterior line of anastomosis [illegible] simplified temporary [illegible] pressure to determine that [illegible] complete is easily [illegible] by releasing one end of the clamp only [illegible] again closed until [illegible] is complete

No [illegible] is made for the blades to be reversed [illegible] because this [illegible] unnecessary The pressure exerted on the stomach is not severe and lasts only a short time and long use of the clamp has not been followed by any ill result

Advantages claimed for this clamp over other types of gastric clamps in common use are (1) even pressure across the whole width of the stomach is obtained [illegible] parallel action (2) there are no sharp projections which may injure the [illegible] when the clamp has to be applied high up under the left lobe and (3) the clamp is light in construction and is easily applied and removed

[illegible] thank Mr H L Sluglett of Messrs John Bell & Croydon for much [illegible] perfecting this instrument The clamp is made in two sizes—7 in and [illegible] in length—and may be obtained from Messrs John Bell & Croydon

[illegible] Cancer Hospital F 11 W L Joseph M A M B Cantab

Reprinted from *The Lancet* 15th December 1951 p 1121

Notice

[illegible] is to send in original [illegible] items of news and [illegible] medical [illegible] ships and establishments [illegible] stations [illegible] details are insufficient [illegible]

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The Harvard system should be employed for [illegible] of [illegible] references being arranged in alphabetical order of the [illegible] names at the end of the contribution thus Smith F G (1935) *J roy nav med Serv* **22** 54 In the [illegible] a reference to a publication should be cited by giving the author and in brackets the date thus Smith (1935) believed this to be the &c

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THE EDITOR

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VOLUME XXXVIII [illegible]

Journal
of the
Royal Naval Medical Service

Articles

WARSHIP CONSTRUCTION AND HABITABILITY[1]

BY

T. THORPE

(Chief Constructor, Director of Naval Construction, Department, Admiralty)

WHEN a new ship is designed the Director of Naval Construction has to [illegible] Balanced Design. Not only has the ship to possess [illegible] that it floats upright and is stable but also to [illegible] proportion to the number of conflicting requirements has to be maintained.

In both these senses of balance he must meet the object of Damage Control. To maintain the offensive powers of the ship by anticipating and [illegible] the effects of damage. The essential purpose of a warship is to fight and he must be able to do this not only when intact but also when damaged. In this manner. From these principles comes the Director of Naval Construction's [illegible] in structural weight, space and uprightness and [illegible] at the same time meeting the fighting and [illegible] requirements required by several Admiralty Departments and Staff Divisions.

Deadweight has to be carried in order to keep the required hull [illegible] to avoid overstressing the structure. That this is a serious matter is illustrated by the fact that nowadays cruisers, battleships and aircraft carriers have a smaller compensating weight when additions are made. All ships grow [illegible] finely well recognized rules due to development of improved material which must be incorporated to keep them up to date. In one instance the weight of a ship has been growing at the rate of about one hundred tons a year. It has been decreed by their Lordships on the advice of the Director of Naval Construction that her draught must be limited to a figure above which her structure is likely to work and become leaky in heavy weather.

Deadweight must be carried so that there is a reserve of stability [illegible]

[1] This article is based on a lecture followed by questions and discussion held at the Royal Naval Medical School on 24th January 195[illegible]

capsizing effect of weather and [illegible] This has led to the decision that all ships must carry [illegible] equivalent leverage above the keel [illegible] Where [illegible] the actual officer of a ship thinks of a solution whereby his [illegible] can be improved he should realize that it must keep [illegible] for additions to weight and claims equal to the possible [illegible] requirements in these matters as in that his Commanding Officer must [illegible] something else to be landed in compensation

Watertight integrity is dependent on a system of compartments subdivided by watertight bulkheads and decks The Director of Naval Construction would like this inviolate but it is assumed on all sides by piercing for water main and oil pipes electric cables doors hatches air trunks and rod gearing to valves

Merchant ships are generally subdivided by transverse bulkheads only and have a standard of Flotation termed One Compartment Two Compartment and Three Compartment according to the number of these compartments which can be flooded without immersing the edge of the freeboard deck Warships have sinking and heel as well as trim due to damage by means of decks and in addition to transverse bulkheads longitudinal bulkheads if the hulls are large enough to withstand the heeling moment caused by the flooding of one side In addition to these they have refinements such as trunked across compartments low down under the waterline which are planned in action

In addition to a freeboard deck as in merchant ships warships possess a Datum Deck defined as that deck which is at least eight feet above waterline This fixes the position of the tops of the access trunks and helps to fix the Risk Markings of watertight doors hatches and scuttles The largest warships have a system of safe underwater protection for the vital parts and armour to keep bombs and shells out of machinery spaces and magazines

This internal structure has now to be inhabited and habitability goes a long way towards making the ship sinkable for example wherever a ventilation trunk passes through a watertight deck it must be fitted with a flap valve so that by closing this valve it can be rendered watertight If the deck so pierced is below the datum deck the valve mechanism must be geared by means of rod gearing for operation from a position above the latter deck This gearing must itself pass through every deck down to the valve A further example may be given—it is obvious that doors and hatches must be provided for access between living and working spaces In this case watertight integrity is maintained as far as possible by strict refusal to pierce main bulkheads with doors below the datum deck This leads to much climbing of ladders and waste of time but it is preferable to providing easy channels for the passing of flood water It is therefore of the utmost importance that ships companies are drilled to observe watertight door discipline after use doors must be closed and clipped securely according to the prevailing damage control state

Normal Ventilation

The [illegible] compartments [illegible] several different methods of ventilation. Ventilation depends [illegible] and recently a first estimate [illegible] required for [illegible] by the requirement that [illegible] depending on the material and [illegible] the compartment.

[illegible]

[illegible]	[illegible]
Mess [illegible]	[illegible]
Recreation [illegible]	[illegible]
[illegible]	[illegible]
Mess [illegible]	[illegible]
[illegible]	[illegible]
Galleys	[illegible]

Whilst these figures [illegible] that each living space is supplied with [illegible] per minute for each man [illegible] excessive rise of temperature between supply and [illegible]

In living spaces and [illegible] neighbouring compartments. [illegible] compartments which are [illegible] keep cool. Where he cannot avoid placing [illegible] living spaces he lags the bulkheads and decks between [illegible] approximation to the required rate of air supply [illegible] compartment he uses a formula which takes account of the volume of the compartment the number of men normally in it any contained [illegible] generating heat any such equipment in an adjacent compartment [illegible] decks and ships sides heated by the sun and any lagging fitted.

Boiler rooms have large quantities of air trunked down to the stokeholds where it builds a pressure to force a draught through the furnaces and up the funnel. They must therefore be entered through airlocks. Future boiler rooms will have open stokeholds with air trunked to closed furnaces for more efficient boiler design.

Galleys must eject steam and air heavy with cooking smells and must at the same time have plenty of air movement for the comfort of the cooks. Canopies are built over ranges and ovens so that steamy air can be exhausted by fans. The supply fans have to be weaker than the exhaust fans so that cooking smells are not forced out of the galley and into the surrounding parts of the ship but the supply fans have also to be powerful enough to provide good draughts of air to the cooks working positions.

Living spaces have to be supplied with enough air to keep oxygen content up and the carbon dioxide odour and bacterial contents down. In general this can be done adequately by fans on the supply side alone exhaust being natural at speeds not exceeding 300 cu ft/min. For some mess decks, which

[illegible] exhaust fans must be fitted in [illegible]

[illegible] separate trunks from other living [illegible] and steam. For the same reason [illegible] the supply fan power in such compartments [illegible] 30 in. It may [illegible] from each wash basin [illegible] with exhaust fans of [illegible] supply fan. The trunks must also have [illegible]

[illegible] their exhaust outlets must be flush [illegible] the compartments contain any carbide [illegible] supply air and petrol fumes are exhausted [illegible] proof axial fans.

[illegible] perishable goods and noxious gases are [illegible] They are ventilated by portable fans [illegible] Dehumidifiers are provided to [illegible] sum of structure and deterioration [illegible]

[illegible] are generally designed far in [illegible] Complaints are often made that this [illegible] which could be reduced if [illegible] occupy more space and increase [illegible] cutting large holes in the watertight [illegible] might well be smaller [illegible] On the whole it is considered that [illegible] rule is the best possible [illegible]

With the [illegible] systems required for different types of compart[illegible] is not [illegible] exhaust and supply inlets clear. Other difficulties [illegible] which [illegible] of material [illegible] the avoidance of supply air [illegible] warm spaces and radiation of heat from warm [illegible] living and working spaces.

[illegible] for Arctic Conditions

[illegible] H.M. Ships must be habitable in Arctic and tropical [illegible] without requiring modification of structure or fittings whilst passing [illegible] extreme to another. In the Arctic steam heating and change of air with [illegible] movement are required whereas in the tropics plenty of air movement [illegible] some spares vital to fighting efficiency, air cooling and dehumidification [illegible] required. For both extremes of climate ships need lagging on exposed [illegible] and the same material which keeps heat inside in cold weather will [illegible] it out in hot weather. At present the practice is to lag with spray if [illegible] lists.

[illegible] with the change of air movement from slow to fast, the larger fans [illegible] and various kinds of supply terminals are available which by

[illegible] diffusing [illegible]

[illegible]

He [illegible] to [illegible] that [illegible] the human body is termed the [illegible] *ature* (C E T) The value is obtained for any given compartment [illegible] ing three factors and compounding them by means of [illegible] These factors examined are 1 Relative humidity 2 Air movement [illegible] compartments Relative humidity is [illegible] ing wet and dry bulb temperatures Air movement [illegible] Radiation from surrounding compartments [illegible] the Black Globe thermometer

The Corrected Effective Temperature is defined as that temperature of still saturated air which will produce the same feeling of bodily comfort in the air under consideration

In the design stage of building a ship temperature conditions are assumed to be dry and wet bulb temperatures of 88 and 80° F Sea temperature 86 F and surface temperature exposed to the sun 120 140 F The R N P R C recommend that whenever practicable the C E T should be kept below 80 F in spaces where men work and that it is especially desirable that it should not exceed 86° F even in tropical waters unless the temperature of the external air exceeds 100° F These conditions are based on the findings of the Habitability Missions sent to the Far East in 1943-44 More than 1 expected from the Tropical Research Unit set up in Singapore three years ago In ships at sea it is up to the Medical Officers concerned to use the Habitability Instruments supplied to the Fleets and to report unduly severe conditions

The criterion of habitability applied to Arctic cold is that the Comfort Zone is about 62° F dry bulb at this temperature the relative humidity has little effect provided that it is not below 30 per cent It is therefore not necessary to measure the C E T which is in any case not applicable to men wearing heavy clothing Airspeed should not exceed 20 ft/min at temperatures below 60° F A supply of 15 cu ft/min per man is enough to maintain healthy limits of oxygen and carbon dioxide and to avoid increase of bacterial content The volume of supply mentioned above is maintained by relief valves fitted in the tops of trunks even though all supply terminals are shut

Ambient air in the Arctic in spite of being saturated or nearly so has a low moisture content and if heated to 65 70° F is too dry for comfort It causes dryness of the mouth and cracking of the skin In crowded messes the moisture given off by the human body maintains the relative humidity at an acceptable level when heaters are used

The Admiralty Standard Air Heater is designed to produce a compartment temperature of 60° F dry bulb under Arctic conditions and it is fitted in all living and working spaces likely to become colder than this It is steam heated and supplied in a range of sizes suited to the Standard fans By passes are fitted where space permits but in small ships the heating elements are removed in the Tropics

Air Conditioning

Air [illegible] in H M Ships covers control of temperature [illegible] and is necessary in many compartments [illegible] In addition control of odours and [illegible] being tried in submarines The Admiralty has promulgated a list of compartments in order of priority of need for the prescription of mental alertness by air conditioning in cruisers and larger ships It commences with the Action Information Centre and finishes with the Sick Bay

To keep the size of air conditioning machinery to a minimum it is designed to reduce dry and wet bulb conditions to 85 and 71° F in the standard tropical conditions of 88 and 80° F dry and wet bulb respectively This will avoid excessive perspiration and give reasonable comfort in vital compartments Mess decks are not in the list of priorities but when their turn comes for consideration the plant is designed to produce dry and wet bulb conditions of 88° and 73 5° F under the above Standard Conditions Heat loads of human bodies and heat producing equipment have been tabulated from experience for the purposes of these calculations

The Royal Naval School of Hygiene recently measured the metabolic rates (heat output) of ratings engaged on different jobs and these will form the basis for future calculations

Air conditioning plants of 90 000–180 000 B T U per hour use freon or methyl chloride as refrigerating mediums Larger plants cool circulating water by the vacuum steam jet principle In all H M Ships there will also be found self contained units of 11 000 25 000 and 40 000 B T U per hour capacity using freon for cooling and drying purposes only These small units have been installed in large numbers of small compartments and are also used for dealing with moderate emergency conditions In the case of all plants it is important to recirculate the air and to admit 10 cu ft /min /man from the outside atmosphere

A B C Attack

In this section only general principles regarding the defence against chemical warfare agents are discussed

This subject is not new considerable attention was given to it in the late 1930s and the principles of defence against gas evolved at that time have been applied to H M Ships ever since

These principles can be stated as follows

(a) A state of 'Prepare for Gas' was instituted During this state which could probably be maintained over long periods the general work of the ship has to be interrupted as little as possible therefore as many compartments as possible would have to be grouped for the purpose of ventilation and intercommunication This constitutes the Gas Citadel

(b) The Gas Citadel would include all living spaces and those compartments in which it was important for men to continue to work Engine rooms boiler

rooms and auxiliary machinery spaces which require large quantities of air for operation would be excluded from the Citadel. Men working in these compartments would have to rely on their respirators.

(c) The ventilation system of the Citadel would be fitted with flaps so that their exhausts and supplies could be either stopped altogether or switched from the exterior to the interior. In the latter case some fans would be used to recirculate the air inside the Citadel in order to provide some habitable comfort by treating air movement.

(d) Essential action compartments where men could not work in respirators and also where large numbers were congregated in small spaces would be provided with air filtration units.

Owing to the fact that there were no gas attacks during the late war there was a tendency to treat antigas precautions with scant respect in the period immediately following the cessation of hostilities. Later when the possibilities of new chemical warfare substances and possible damage by bacteriological and atomic attack were realized the subject became of supreme importance. New methods of defence have been evolved which are thought to be proof against these happenings.

General Discussion

Q. Are any measures taken to ensure watertight integrity of the Citadel, as distinct from the watertight integrity of the hull?

A. As far as possible the boundaries of the Gas Citadel, the actual structure dividing it and the watertight doors, hatches and valves in it, remain the same as those of the damage control section, so that any loss of watertight housing and where inside it will open up part of the Citadel and not the whole area.

Q. In U.S.N. Ships are quite the impression of much heavier and bulkier than in H.M. Ships. Is anything being done to improve this aspect?

A. In recent installations much more attention has been given to the layout of fittings, valves, pipes, trunks and other obstructions than has been the case in the past. Mess spaces were considered so that the position of tables, lighting could be decided and arranged. We have the disadvantage compared with the U.S.N. of having less design staff for such work. Some of the worst obstructions are ventilation trunks which are now specified to use decks and bulkheads as part sides for economy in weight, space and general tidiness, but British shipbuilders persist in often to sub-contract ventilation trunks such that it is not easy to impose this specification requirement.

Q. The optimum rise of the temperature of air in passing through a fan is quoted as 1.5 F. Can this not be reduced?

A. The temperature rise in a centrifugal fan is unsatisfactory. The designs of fans are now being standardized and this point among others such as noise and vibration will be watched in the process.

SUMMARY

[illegible] this paper there [illegible]

(1) [illegible] equipment and [illegible] of hot climates

(2) [illegible] food [illegible] equipment [illegible] different [illegible] that many [illegible]

(3) [illegible] abnormal [illegible] must be [illegible] without [illegible]

(4) The [illegible] principles of ventilation [illegible] concentration [illegible] small systems

---

THE CHOLERA EPIDEMIC IN EGYPT 1947[1]

Some Aspects of the Research Work of the U.S. Naval Medical Research Unit No. 3

BY

Surgeon Captain S. G. RAINSFORD, R.N.

Introduction

Mr. President, Ladies and Gentlemen,

The investigations referred to in this paper were carried out in Cairo by the U.S. Navy Medical Research Unit No. 3 (usually known as NAMRU 3) during the Egyptian cholera epidemic of 1947.

At the time NAMRU 3 was not yet established and was not the completely organized and splendidly equipped unit it is today, and the nature and extent of the investigations were consequently limited.

In all 50 cases of acute cholera came under investigation and treatment by the unit and in addition 40 mild cases of diarrhœa which had come under observation at the Abassia Hospital for infectious diseases during the height of the epidemic were examined bacteriologically.

These numbers are of course small, too small in fact to allow many definite conclusions to be drawn from the investigations. Cholera epidemics, however, are usually of so explosive a character that all medical facilities become rapidly swamped so that there is seldom time available for the thorough investigation and treatment of any case. It will be seen therefore that from a research point of view there was something to be gained by concentrating all the efforts of this small research unit on such a small number, for it allowed

[1] Read at the Annual Conference of the Association of Sea and Air Port Health Authorities of the British Isles held at Rochester on 11th–13th June 1952.

[illegible]

[illegible]

The Treatment of Cholera

It would be impossible in the time available to refer to every aspect of the research on Cholera undertaken by the unit. It is therefore proposed with one exception to restrict this paper to those aspects which concern the spread of cholera and its control. The one exception being the treatment of cholera, for this was by far the most important and most extensive piece of research that was carried out. Furthermore the principles involved can be applied so easily to any condition where there is great reduction of blood volume and dehydration that it should be of universal interest and importance.

Briefly the conclusions reached at NAMRU 3 were that cholera consists primarily of vomiting and alkaline diarrhœa which is initiated in some unknown manner perhaps by the *cholerae* all other manifestations of the disease are secondary. The diarrhœa produces severe dehydration and acidosis because of the loss of fixed base and electrolytes. Cholera is essentially a vicious circle in which initial dehydration and acidosis produce conditions which cause further dehydration and acidosis. If the cycle is once broken the disease process stops.

Now it was ascertained that for Egyptian males a whole blood specific gravity of 1.055 or a plasma specific gravity of 1.027 (water being 1.000) was the minimum degree of hydration which is compatible with normal kidney function. On the basis of this data the following routine treatment was evolved. On admission the specific gravity of either the whole blood or the plasma was determined using the copper sulphate method of Phillips and Van Slyke. This method can be practised literally at the bedside of the patient and the technique is so simple that comparatively unskilled personnel can learn to make accurate determinations with it in a few minutes.

In addition the serum CO_2 in volumes per cent was estimated by Van Slyke's method.

From these determinations the degree of dehydration and acidosis and the transfusion requirements of the patient was calculated using the following formulæ:

(1) To calculate the degree of dehydration every unit rise of blood specific gravity above 1.055 multiplied by 150 indicated the total requirement in c.c. of isotonic fluid necessary to lower the blood specific gravity to the critical level of 1.055. If the plasma figures were employed every unit rise above 1.027 had to be multiplied by 200.

(2) To calculate the degree of acidosis a normal serum of CO_2 was assumed to be 55 volumes per cent. Every unit fall below this figure multiplied by 20 indicated in c.c. the total amount of 4 per cent sodium bicarbonate solution required to neutralize this degree of acidosis.

Example

Patients blood specific gravity	1 065
Normal blood specific gravity	1 055
Difference	10 × 150 = 1 500 c.c. [illegible]
Normal serum CO_2 in vol. per cent	55
Patients serum CO_2 in vol. per cent	30
Difference	25 × 20 = 500 c.c. of 1 per [illegible] solution
Total fluid required (1 000) saline	1 000 c.c.
1 per cent sod. bicarb.	500 c.c.
Total	1 500 c.c.

The total amount of fluid calculated on these principles was [illegible] as a mixture as rapidly as possible 2 litres often being administered [illegible] the hour. It speaks very highly for the accuracy of the blood [illegible] determinations that although these comparatively enormous [illegible] of fluid were transfused so rapidly and in such case developed any signs of [illegible] of the lungs. During this regime was continued all fluid losses in vomit and stool were [illegible] and an equal volume of 0·9 per cent saline solution added to the total amount being translated to make good this loss.

This procedure however was too elaborate to be practised under field conditions. For such situations a simplified procedure was evolved. In the field only the blood specific gravity was measured and the total fluid requirements calculated. The initial transfusion however consisted of a mixture of 0·9 per cent saline and 4 per cent sodium bicarbonate solution in the proportions of 8 to 1 any losses of fluid from the patient during transfusion being made good by giving a mixture consisting of equal parts of saline and sodium bicarbonate solutions. Thereafter the blood specific gravity was measured from time to time and if it rose above 1 055 the cycle of treatment was recommenced.

In addition to transfusion patients were forced even when vomiting to drink liberal quantities of fluid up to 300 c.c. an hour. It was found that they never vomited as much fluid as they swallowed.

Once the acute flux ended they were encouraged to partake of a liberal diet.

The results of this treatment speak for themselves. Of 50 cases treated and all were severe cases only 4 died while the mortality rate throughout the remainder of the epidemic area varied between 20 and 40 per cent. It is realized however that without qualification such a comparison is unjust to our Egyptian colleagues who had to contend with tremendous difficulties such as shortage of nursing and medical staff drugs and apparatus and this was especially so in the rural areas where the mortality rates were highest.

At NAMRU 3 there were adequate supplies of drugs and apparatus and sufficient staff to allow each case individual attention. There is little doubt

[illegible] only [illegible] but with confidence and [illegible] causing [illegible] there is available a simple method of determining [illegible] the [illegible] present i.e. the Phillips and Van Slyke's copper sulphate method.

These facts however do emphasize the unreliability of [illegible] drawn from mortality figures in a disease like cholera when [illegible] depends upon the adequacy and thoroughness of treatment [illegible] and therefore on the facilities available. [illegible] later in this paper when the value of intravenous [illegible] discussed.

This very brief account of the treatment [illegible] of NAMRU [illegible] of course do justice to those who carried out the research. Those particularly interested in cholera referred to the original papers on the subject namely Weaver, Johnson and Phillips (1948) and Johnson, Weaver and Phillips (1948). Weaver and Johnson both served in the U.S. Navy Medical Corps at the time when they were [illegible] this work. Our personal tribute is owed to Commander R. A. Phillips, U.S.N. Medical Corps, [illegible] Commanding Officer NAMRU 3 for [illegible] working with Van Slyke who devised the copper sulphate method for measuring blood specific gravity. It does not appear to be generally known that by this method determinations can also be made of the hemoglobin and serum proteins. Is it not remarkable that in these days when we live under the ever present threat of an atomic bomb attack this method has not been more universally adopted for estimating the transfusion requirements of human casualties? Surely such a method is more likely to indicate the true requirements of such cases than the various rules of 9 and 10 with which we have been indoctrinated recently.

The Bacteriological Investigation of Acute Cases of Cholera

Of the 51 acute cases of cholera investigated 4 died and the remainder made an excellent recovery. No accurate history could be obtained from the fatal cases or from 2 of the cases that recovered. As only one ward was available to the Unit all patients accepted for the investigation were of the male sex.

The routine bacteriological investigations carried out on all patients included the examination of a daily sample of stool when this was available until three recurring samples had been proved negative for the presence of *V. cholera*. An endeavour was also made which was only partially successful to obtain a sample of serum for the titration of cholera O antibodies on the day of admission and every other day afterwards for a period of two weeks. In addition samples of vomitus were examined bacteriologically but not as a routine procedure.

(a) *The Isolation of the Vibrio.* The cholera vibrio was isolated without difficulty from the stools of 44 cases. 3 cases were admitted in a dehydrated and shocked state and passed no stools during the acute phase of the disease.

[illegible] is in equal quantities in [illegible] Numerous cultures were made from the [illegible] This is remarkable in view of the [illegible] from the [illegible] often in almost pure [illegible] Briefly with stool material but apparently [illegible] which occur in epidemics (Jackson 1911) [illegible] from the stools of more than 80 per cent [illegible] hours. While in remarks that [illegible] primary cause of cholera did not hold good in quite the [illegible] It is also responsible for the suggestion of some experimenters [illegible] that the cause of cholera may be a virus and that the virus [illegible] relationship to a virus similar to that which *H. influenzae* bears to the [illegible] It would appear that the duration of the disease [illegible] time under investigation has some bearing on the finding [illegible] In the majority of cholera convalescents [illegible] *cholerae* [illegible] from the stools later than the fifth day from the onset of the [illegible] cases it is isolated later the maximum period [illegible] in one case. In practice it was not found worth while [illegible] than the fifth day except where individuals had [illegible] In this series of cases, however [illegible] of those who proved to be [illegible] under observation within seventy-two hours of the [illegible]

For these reasons [illegible] of specimens from these cases from which the [illegible] These will be referred to later.

(b) The Persistence of [illegible] and the Effect of Sulphaduzine.

Of the 40 patients [illegible] 4 died as already stated and from 8 no vibrios were [illegible] From the remaining 38 daily cultures were made from the stools as long as the diarrhœa lasted and the results obtained are shown in Table I. The figures in this table refer to the number of days that each patient was under treatment (not the duration of the disease) during which the stool cultures remained positive for *V. cholerae*. In these cases vibrios continued to be excreted until the diarrhœa ceased so the table is really a record of the length of time the diarrhœa persisted. It would be of

TABLE I.—SHOWING THE LENGTH OF TIME AFTER ADMISSION THAT THE STOOLS OF PATIENTS WHO RECOVERED REMAINED POSITIVE ON CULTURE.

Days	1	2	3	4	5	7	10	*Total*
Patients receiving sulpha	3	12	2	0	0	0	1	18
No sulpha	4	3	9	2	1	1	0	20
Totals	7	15	11	2	1	1	1	38

[illegible]

[illegible] were still passing loose stools it [illegible] concentration in the lumen of the gut [illegible] effect.

The majority of these patients [illegible] discharge from hospital. In none were [illegible] stage of the disease had passed. [illegible] become a persistent carrier of [illegible] experiences (Taylor 1941).

(c) *The Immunological Response to Inoculation.*—[illegible] sample of blood serum was obtained [illegible] three day intervals afterward. In the [illegible] titres of O antibody found in these samples [illegible] illness are shown in Table II. In [illegible] immunological response throughout the [illegible] two days.

Of the 50 patients examined 24 had [illegible] inoculation of cholera vaccine at some time prior [illegible] 18 had definitely not been immunized and [illegible] had the history was either doubtful or [illegible] For [illegible] the data concerning the 9 cases has been excluded from Table II.

TABLE II.—SHOWING THE CHOLERA HEMAGGLUTINATION TITRE [illegible] PATIENTS WHO RECOVERED IN RELATION TO THE [illegible]

	1	1	1	1	1	1	1			1	
Titres	—	—	—	—	—	—	—	—	—	—	
	10	10	20	40	80	160	[illegible]	[illegible]	[illegible]	[illegible]	*Total*
1st Attack											
Immunized	9	—	4	—	1	6					
Not immunized	15	1	1		1	1	[illegible]	[illegible]	[illegible]		18
Total	24	1	5	1	—	1		[illegible]	[illegible]	11	38
2nd Attack											
Immunized	0	—	11	1	5	1	1	1	1	0	7
Not immunized	2	1	—	1	1	1	[illegible]	[illegible]	[illegible]		6
Total	2	—	7	1	5	1	[illegible]	1	[illegible]		11
Number of Attacks required for recovery											
Immunized	1	0	11	1	[illegible]	1		3	[illegible]	—	3
Not immunized	5	3	2	—		11	[illegible]	[illegible]	[illegible]	—	18
Total	6	3	—	1	5	3		5	1		41

The [illegible] patients of the [illegible] found that [illegible] O [illegible] applied to those [illegible] antibody when they first [illegible] were encountered who [illegible] throughout their illness [illegible] early recovery took [illegible] than sera.

[illegible] onset of illness in 23 the [illegible] found, and in 17 cases [illegible] continued to excrete the [illegible] in the blood. It would [illegible] that the [illegible] absence of O antibody had little [illegible] if any on the [illegible] of the vibrio in the stool, and was [illegible] related [illegible]

All cases investigated [illegible] and required urgent treatment for [illegible] and collapse. [illegible] in this respect between the [illegible] and the [illegible] group. In Table II it will be seen that the [illegible] and in greater amounts [illegible] immunized group. [illegible] however that there is [illegible] the speed of recovery or the severity of the disease, and the [illegible] of development and the amount of O antibody [illegible] blood.

THE [illegible] OF [illegible] CASES OF CHOLERA FROM WHOM THE VIBRIO WAS NOT RECOVERED

(a) [illegible] In Table III [illegible] the titres of O antibody [illegible] the highest titre [illegible] during the illness of the 8 cases [illegible] It will be seen that there was [illegible] that had not been immunized before the onset [illegible] patients the rise cannot be regarded as [illegible] the vibrio. Of the immunized group no antibody [illegible] throughout the illness in one patient, and in 2 there [illegible] In the fourth patient there was only [illegible] It will be seen therefore that in only [illegible] of these 8 cases can the [illegible] be regarded as definitely significant of infection [illegible]

(b) *The [illegible]* [illegible] The stools of 4 of these patients were examined for the presence of [illegible] phage. Phage was isolated without difficulty from [illegible] cases. No phage was isolated from the [illegible]

(c) *The [illegible] in the Stools.*—The stools from [illegible] heated [illegible] for two hours, then passed [illegible] The [illegible] and heated material

[illegible]

TABLE [illegible]

ON [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1/80 < 1/160
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1/320 < 1/640
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1/40
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1/40 < 1/1280
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] < 1/1280
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1/40 < 1/80
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1/40 < 1/1280

[illegible]

were injected intravenously [illegible] in three doses of [illegible] and [illegible] with an interval [illegible] days between each dose. Two rabbits were employed for the testing of each sample. One week after the third injection a sample of blood was withdrawn from each rabbit and the cholera O antibody in the serum titrated. The rabbits used in this experiment were specially selected in advance and only those in which no cholera O antibody could be detected at a serum dilution of 1/10 were employed. The results are shown in Table IV, and it will be seen that in all 4 patients the stools must have contained some cholera O agglutinogen.

TABLE IV.—SHOWING RESULTS OF EXPERIMENTS IN 8 CASES IN WHICH THE VIBRIO WAS NOT ISOLATED.

Patient Number	Immunized	Days of disease when visited	Results of Gruber's	Pfeiffer's phenomenon	O agglutinin in blood	Rabbit No. 1	Titres No. 2
128	Y	3rd	No test	Yes	Yes →	1/80	1/160
127		5th	2 hrs.	No	Yes →	1/320	1/80
150*		1st	None	No test	No test	—	
157		1st	Negative	No	Yes →	1/320	1/80
118	Y	3rd	8/4/41	Not tested	Not tested		
125		5th	8/4/41	Not tested	Not tested		
133*		5th	2 days	Not tested	Not tested		
14		1st	6/5/41	Yes	Yes →	1/160	1/32

*Cases that passed into Gruber's stool after discharge.

Summary.—All the findings of the bacteriological investigations made into these 8 cases are summarized in Table IV. It will be seen that there is bacteriological evidence of infection in each instance with *Vibrio cholerae* in one of these patients. In the other seven cases however the twofold reaction is suggestive since this patient had not been immunized. Furthermore the O agglutination reaction with cholera vibrios is rapid, vigorous and complete and doubtful reactions do not occur like those seen with the schmorella (Bruce White, 1947). The relative insensitivity of the rabbit in the production of O antibodies is very definite and small titres in the rabbit can be recognized with some degree of certainty.

[illegible] Mild Diarrhoea

[illegible] Rumh Medi[illegible] [illegible] Assam the stools [illegible] of [illegible] V. *cholerae*. [illegible] proof when the [illegible] [illegible] was seen that [illegible] patient [illegible] no signs of [illegible]

[illegible] from 25 of the [illegible] group into [illegible] the cause of the illness [illegible] determined. No attempt [illegible] [illegible] salmonella or shigella [illegible] the search for the [illegible]

Of the [illegible] post[illegible] symptoms and [illegible] cholera after suffering [illegible] the periods varying from [illegible] eight days. The [illegible] days. The remaining [illegible] cases recovered with [illegible] and without developing any grave signs of illness. [illegible] that the diarrhoea persisted was [illegible]. The longest [illegible] the mild cases gave a history of close contact [illegible] others there was no history of such contact. It is [illegible] (1941) found that the longest period of persist[illegible] contact carriers [illegible] days from the onset of the last connected case. [illegible] Munshi (1941) mentions three precocious carriers who apparently excreted the vibrio for [illegible] seventeen and eighteen days respectively before they finally developed cholera. Kamal (1948) reported that 123 cases out of 417 proved contact carriers in this Egyptian epidemic developed cholera and 10.2 per cent of these developed the disease after the fifth day of isolation. [illegible] (1948) found that contact carriers usually became free about the tenth day but 8.3 per cent of 84 cases in Cairo continued to excrete vibrios up to the fifteenth day.

Discussion

(*a*) *Bacteriological Diagnosis*.—The importance of obtaining as early as possible presumptive evidence of the presence or absence of the vibrio in a suspected case need not be stressed. By present methods of examination the earliest at which a presumptive diagnosis of cholera can be made as the result of an examination of stool or vomit is approximately twelve to eighteen hours. It will have been seen from these investigations that a number of cases were encountered in which the vibrio could not be isolated; in some of these it was possible to show that although no viable vibrios were present in the stools they contained the specific 'O' antigen of *V. cholerae*.

It is therefore suggested that a precipitin test could be devised with which it should be possible to detect small traces of cholera 'O' antigen in the

[illegible] NAMRU 3 [illegible] cases [illegible] 28 cases [illegible] pathogen [illegible] in aggre[illegible] the [illegible] the lumen of [illegible] bowel wall [illegible] vibrio [illegible] reaction of the [illegible] microscopical [illegible] NAMRU 3 [illegible] free from [illegible] mucin and the [illegible] 0.1 per cent (Wu [illegible] Johnson and Phillips [illegible]

The irregularity [illegible] is detected in the stools of cases is further [illegible] of the vibrio. That the cholera vibrio [illegible] is also unlikely for a study of the [illegible] such a possibility. [illegible] though the most scientific [illegible] consisted entirely of replacement therapy, that is the dehydration, the loss of electrolytes, and the acidosis due to loss of base were catered for in the large majority of cases no form of specific treatment which could have had any direct effect upon the vibrio was employed (Johnson, Weaver and Phillips, 1948). Under the treatment described a number of cases recovered in a few hours and most of them within a day. It is scarcely conceivable that antitoxin or for that matter any bacterial antibody could have been produced in sufficient quantities in so short a time as to bring about such rapid recovery.

According to d'Herelle (1917) phage is the therapeutic principle which in nature brings about the disappearance of the vibrio and effects a cure. It is of course common knowledge that the cholera vibrio is one of the most easily lysed of organisms. This effect can be produced by weak acids, alkalis, and numerous enzymes. Nevertheless it is unlikely that an effective concentration of any lytic agent normally found in the bowel other than phage could exist in the lumen during the acute stage of the disease. It has been shown that

[illegible] of the vibrio [illegible] [illegible] ises during the acute stage of the [illegible] and [illegible] phagic [illegible] fully isolated. In the remaining [illegible] the vibrio [illegible] until the diarrhœa ceased. In some [illegible] the [illegible] vibrios were present the stool con[illegible] the [illegible] vibrio [illegible]. The fact that the diarrhœa [illegible] of the antigen suggests [illegible] pathological appearances of the intestines. The absence of any general febrile reaction in the patients such as pyrexia, all lend some support to such [illegible].

The chemical and pathological characteristics of the rice water stool closely resemble those of the discharges from the upper respiratory tract seen in cases of hay fever. When it is considered what comparatively large amounts of fluid can be lost from the relatively small area of mucous membrane involved in hay fever, it is not surprising that a fatal degree of dehydration should follow a similar process affecting all the mucous membrane composing the enormous surface area of the whole alimentary tract.

Most allergens are of a nitrogenous nature, and the work of Linton (1940) on the chemistry of the vibrio lends further support to the hypothesis of allergy to the vibrio as a cause of cholera. Linton and his collaborators found that the vibrios can be classified into six groups on a basis of two protein and three polysaccharide constituents. Proteins I and II show wide structural differences but it is highly probable that each is a mixture of proteins (Mitra, 1958). Nevertheless Linton found that the majority of true cholera vibrios possessed Protein I and that this protein was seldom found in other vibrios. It is also of interest that according to Linton El Tor strains which are indistinguishable serologically from the *Vibrio cholerae* differ from the latter by possessing Protein II in the place of Protein I. Morgan (1943) and many other immunologists have shown that specificity of an antigen depends upon the nature of the polysaccharide. Two organisms can therefore be serologically identical provided that the polysaccharide molecules of the antigens are the same, although their protein molecules may differ widely. These facts help to [illegible] to explain why the El Tor vibrio serologically identical with that of the cholera vibrio and which with the exception of an outbreak in the [illegible] (1938) has not been found associated with any true cholera epidemic. The vibrio [illegible] however, had many peculiar characteristics which separate it epidemiologically from typical epidemic cholera. Furthermore the real nature of the hemolysin [illegible] associated with that outbreak is not fully known, and it seems doubtful whether it was an El Tor vibrio (Olsen 1939).

(c) *The Spread of Cholera.* The theory that cholera is an allergic or idiopathic reaction to the presence of the vibrio has been put forward on the assumption that the vibrio possesses no invasive characters. Greig (1914) however, claims that he isolated the vibrio from the gall bladders of patients dying from cholera and that these gall bladders showed signs of cholecystitis. If, however, the gall bladder and bile passages are commonly infected with the vibrio it

[illegible] contacts of [illegible] cases [illegible] of the [illegible] It will [illegible] human and their handling [illegible] that the epidemiology of the disease and the [illegible] of the chronic carrier can be definitely established [illegible] in an epidemic in which many thousands [illegible] have been infected. The development of a chronic carrier state in a small proportion of cases would result in endemic prevalence. Until the last outbreak Egypt had been free of the disease since the previous epidemic [illegible]. It is effectively carrier state had existed after the 1902 epidemic [illegible] happened. It is now generally agreed that Gregg's findings [illegible] carrier with those of other workers.

It will have been seen that the results of the investigations made at NAMRU 3 fully support the views of Sir Leonard Rogers. It is human the mild case and the precocious carrier who appear to be the greatest danger. Kamel (1943) reported that in Egypt the incidence of carriers amongst close contacts of acute cholera cases was found to be approximately 3 per 1000 and that about one quarter of these eventually developed cholera.

(d) The Selectivity of Cholera for the Lower Classes of Society.—It has never been clearly understood how the *V. cholerae* succeeds in establishing itself in the intestine. Sir Napier and Gupta (1942) have shown that the vibrio is rapidly destroyed by normal gastric juice. More recently Dawson and Blagg (1948a, 1948b and 1950) working at NAMRU 3 found that the saliva of normal persons will lyse suspensions of the cholera vibrio but that this lytic agent was absent or only present in insignificant quantities in the saliva of patients who had recovered from cholera. It may be that the deficiency of enzyme in the saliva of cholera patients is part of a general deficiency of enzymes affecting all the digestive juices of the alimentary tract. Whether there is in addition a deficiency of hydrochloric acid in the gastric juice of cholera patients is at present not known but it is a matter that should certainly be investigated. It is, of course, also common knowledge that certain types of allergy are frequently associated with achlorhydria. In cholera epidemics it is usually only these living under the poorest of hygienic conditions who are attacked. In this respect the Egyptian epidemic was no exception.

The mortality rates for cholera amongst the upper classes of society have always been significantly low. This is a very remarkable fact for it holds true even when such people are working under conditions where the risk of exposure to infection is high. With all due respect to Miss Brunhild and his book The Rains Come, the low rate of infection amongst doctors and nurses working with cholera patients is well known and has been the cause of much comment in the past. At NAMRU 3, for research purposes, the stools of patients were handled literally by the gallon; nevertheless not a single member of the staff became a casualty. Sir Kamel (1948) reported that the incidence

[illegible]

[illegible] *Vibrio cholerae* [illegible] Although the [illegible] is so [illegible] confusing [illegible] vaccines prepared [illegible] are [illegible] [illegible] them. If however the [illegible] are not [illegible] by the [illegible] and how an [illegible] to the [illegible] of the disease. The [illegible] in the [illegible] considered [illegible] [illegible] immunity has little [illegible] on the [illegible] It is however [illegible] beneficial [illegible] exhibited by [illegible] ally and than [illegible] W. H. Yorke [illegible] published [illegible] inoculated [illegible] talk.

The following table [illegible] extracted from Yorke's paper.

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

It will be seen from these figures that the oral vaccine was even more effective as a prophylactic measure than the vaccine administered subcutaneously. Reference has already been made to the dangers of drawing conclusions from the mortality figures and for these reasons it is not considered that they can give any information as to the comparative value of these vaccines.

Although controversy as to whether it is advisable to actively immunize a population in the face of an epidemic has raged for many years it is now the general consensus of opinion that this procedure is beneficial. Cholera epidemics however are explosive and usually the community attacked is only involved for a matter of weeks. It is almost impossible to practise universal immunization in the time available for the injection of vaccine requires trained personnel and apparatus such as syringes needles and sterilizers etc. It is therefore suggested that the administration of cholera phage cultures by mouth should

[illegible] phage [illegible] mitigate [illegible] the [illegible]. [illegible] effect [illegible] rapidly [illegible] phage throughout the infected area and [illegible] effect in controlling the epidemic.

(ii) *Prevention.* The results of [illegible] support the view of Indian observers and [illegible] that the chief agent in the spread of cholera is the mild undetected case and the [illegible] carrier. Since both these agents may excrete the vibrio [illegible] for periods up to two weeks it is obvious that the present [illegible] revision. The usual two weeks quarantine period instead of five days as at present would however seriously restrict travel and disorganize shipping. It is possible that sulpha drugs or cholera phage might prove successful if employed prophylactically on board ship and at the quarantine stations and ports. It is suggested that the prophylactic value and potentialities of these substances is a matter for further research which should be undertaken without delay.

SUMMARY

(a) A brief account has been given of the research on the treatment of cholera. This indicates that the success of treatment depends almost entirely upon the rapidity with which the effects of dehydration can be counteracted and thus upon rapid and adequate transfusion. This can be carried out only if there is a simple and quick method available of estimating accurately the degree of dehydration present.

(b) *V. cholerae* was isolated from 42 of 50 clinically acute cases of cholera. In [illegible] of the remaining 8 cases other bacteriological evidence indicated an association of the vibrio with the illness.

(c) The bacteriological findings suggest that a precipitin test could be devised which would indicate the presence of cholera O antigen in stools of suspected cases. Such a test would afford a very rapid method by which a presumptive diagnosis of cholera could be made.

(d) Further evidence is presented which indicates that *V. cholerae* is the causative organism of Asiatic cholera.

(e) No acute case after recovery was found to excrete the vibrio once the stools had become normal and fully formed.

(f) *V. cholerae* was isolated from 25 of 50 cases of mild diarrhoea examined during the height of the epidemic. 7 of the 25 positive cases later developed typical acute cholera.

(g) The results of the investigations indicate that the chief agents in spreading the disease are the undetected mild cases and the precocious carriers.

(h) An acquired immunity to the vibrio would appear to play no part in the prevention or cure of cholera.

(*c*) Evidence is published which suggests that [illegible] in the reaction to the presence of the vibrio

(*g*) The investigations should appear to indicate that [illegible] the various may have depends upon their destroying effects [illegible] upon their immunogenic properties

(*h*) Reasons are given for suggesting that oral vaccines prepared from cholera phage cultures might be found useful in prophylaxis and the control of cholera epidemics

(*i*) Quarantine regulations require revision The prophylactic value of [illegible] and phage and their possible use on board ship and at quarantine [illegible] and ports should be investigated

In conclusion I would pay tribute to Commander R A Phillips M C U S N [illegible] his leadership and organizing ability made it possible in the face of [illegible] difficulties for this work to be carried out

I [illegible] wish to express my thanks to the U S Navy technicians James D [illegible] H M C U S N Del Thrasher H M C U S N and Donald L Clark H M 1 U S N who rendered me such valuable assistance

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CLASSIFIED MEDICAL REFERENCES IN THE WORKS OF SHAKESPEARE

BY

Surgeon Commander J. W. L. CROSFILL, R.N.

PART II

BALDNESS

134	*Dromio*	There's no time for a man to recover his hair that grows bald by nature. *Comedy of Errors*, II. 2.

BASILISK

The basilisk or cockatrice was one of the more popular of fabulous monsters. It is said to have had the power of killing at a glance.

Sir Francis Bacon (1561–1626) tells of the belief in his *Advancement of Learning*, as the fable goeth of the basilisk, that if he sees a man first, you die for it.

It would appear that some did probably believe in its existence and supernatural power since Sir Thomas Browne [9] chose to comment on the belief.— "Many opinions are pressant concerning the basilisk, in which kind of serpents commonly called the cockatrice. As for the generation of the basilisk, that it proceedeth from a cock's egg hatched under a toad, is a concept as monstrous as the brood itself."

137	*Posthumous*	It is a basilisk unto mine eye, Kills me to look on't.—*Cymbeline*, II. 4.
138		Blue with a basilisk's cold deadly killing eye.—*Lucrece*, 54[illegible]
139	*Duchess*	A cockatrice has thrice killed his mother, Whose [illegible] eyes murderous.—*Richard III*, II. 1.
140	*Gloster*	Why dost thou speak like a [illegible]?
	Anne	Would it were mortal! I pass not for thy sake!
	Gloster	Never came poison from so sweet a place.
	Anne	Never hung poison on a fouler toad. Out of my sight! thou dost infect mine eyes.
	Gloster	Thine eyes sweet lady, have infected mine.
	Anne	Would they were basilisks, to strike thee dead! *Richard III*, I. 2.
141	*Lucrece*	Make me a sight like the basilisk. I think he knew thousands who had seen sight before, But none regard, but killed as soon as they saw. *Rape of Lucrece*, 1. 2.
142	*Sir Toby*	He will [illegible] as high as the moon with an eye like a [illegible] kill one another by the look, like cockatrices. *Twelfth Night*, V. 1.
143	*King*	[illegible] basilisk [illegible] Pl[illegible]

Ignis Medicus

[illegible] I could wish
[illegible] tid [illegible] could [illegible]
[illegible]

[illegible] [illegible] and tell [illegible]
[illegible]

Bards

[illegible] hold be [illegible]
[illegible] *Mad. II.* [illegible]

[illegible]

[illegible]

Bees

[illegible]

[illegible]

[illegible]

[illegible] Mr. [illegible] my master [illegible]
[illegible] would to bed
Good Bard [illegible] sheets [illegible]
[illegible] Earth [illegible] *Hen.* [illegible]
[illegible]

[illegible] Wait [illegible] *Twelfth Night* [illegible]
[illegible]

Bed [illegible]

155 *H[illegible]* [illegible] *—Hamlet* [illegible]

Bedlam

Bedlam [illegible] famous with [illegible] of St Mary of Bethlehem [illegible] by Simon Fitz Mr [illegible] of London It was built as a [illegible] distributed people [illegible] six patents the rules [illegible] demanding that the [illegible] had to keep the inmates clothed By 1644 the accommodation had increased to forty four When released the previous inmates were allowed to beg It was a custom for beggars to wear an iron ring on their left arm identifying them as Bedlam beggars A host of impostors appeared Part of their stock in trade was a drinking horn which was used for the soliciting of alms Edgar refers therefore to his financial plight when he says My horn is dry Bedlam was essentially a place of confinement and was open as a public spectacle much as the Zoo is to day In fact a humanitarian and therapeutic approach to mental disorder did not appear until the nineteenth century

156 *Edmund* My [illegible] villainous melancholy with a sigh like Tom O Bedlam —*King Lear* II 3

157 *King John* Bedlam have done —*King John* [illegible]

158 *Edgar* Bedlam beggars who with roaring voices
Strike in their numbed and mortified bare arms
Pins wooden pricks nails sprigs of rosemary —*King Lear* II 3

(A [illegible] in Dodoens Bl[illegible] (1611 He seems to hath been [illegible] Bedlam and [illegible] purpose [illegible] pranks [illegible] only places of the [illegible] especially in his [illegible] pranks he gladly puts himself to [illegible] make you believe [illegible] will He calls himself by the name of [illegible] cold)

159 *Edgar* Poor Tom's a-cold —*King Lear* II 3

160 *Suffolk* the bedlam brainsick duchess —*Henry VI Pt 2* III 1

161 *Old Chillingham* To Bedlam with him is the man grown mad —*Henry IV Pt 2* V 1

Beef

Cogan's Haven of Health 1584 states

Galen affirmeth that beef maketh grosse blonde and engendreth melancholie especially if it is much eaten

162 *Sir Andrew* I am a great eater of beef and I believe that does harm to my wit —*Twelfth Night* I 3

163 *Thersites* thou mongrel beef witted lord —*Troilus and Cressida* II 1

164 *Dromio* I think the meat wants what I have
Antipholus What's that ?
Dromio Basting
Antipholus Well sir then 'twill be dry
Dromio If it be sir I pray you eat none of it
Antipholus Your reason ?
Dromio Lest it make you choleric and purchase me another dry basting —*Comedy of Errors* II 2

165 *Catherine* I pray you, husband, be not so disquiet:
The meat was well, if you were so contented.
Petruchio I tell thee, Kate, 'twas burnt and dried away;
And I expressly am forbid to touch it,
For it engenders choler, planteth anger;
And better 'twere that both of us did fast—
Since, of ourselves, ourselves are choleric—
Than feed it with such over-roasted flesh.—*Taming of the Shrew*, iv. 1.

Belch

166 *Iago* They eat us hungerly, and when they're full
They belch us.—*Othello*, iii. 4.

Belly

167 *Menenius* There was a time when all the body's members
Rebelled against the belly, thus accused it:
That only like a gulf it did remain
I' the midst o' the body, idle and unactive,
Still ministering all the parts of men
Which never looks, do see, and feel, are stirring,
Like labour with the rest, where the other instruments
Do see and hear, do see, smell, walk, feel
And, no matter, participant, did minister
Unto the appetite and affection common
Of the whole body. The belly answered—
True is it, my incorporate friends, quoth he,
That I receive the general food at first
Which you do live upon; and fit it is
Because I am the store-house and the spring
Of the whole body. But, if you look remember
I send it through the rivers of your blood
Even to the Court, the heart, to the seat o' the brain
And through the crinkles and offices of man
The strongest nerves and small inferior veins
From me receive that natural competency
Whereby they live.
Though all at once cannot
See what I do deliver out to each,
Yet I can make my audit up, that all
From me do back receive the flour of all
And leave me but the bran.—*Coriolanus*, i. 1.

Birth

168 *Lear* Thou shalt this first time that we smell the air
We wawling and cry.—*King Lear*, iv. 6.

169 *Queen* Yet I have strong, men delivered mother.—*Richard III*, ii. 2.

170 *Hero* [illegible] with immodest hatred
The child bears privilege denied which belongs
[illegible] Still Chastity, he married
[illegible] the opinion of his name
[illegible] strength, fame.—*Winter's Tale*, ii. 2.

Birth Pangs

171 *Bertram* [illegible] with birth pains
Will bring these Helen to an happy end.—*All's Well*, iv. 4.

172 *King* [illegible]
Lord [illegible]
[illegible] *Henry VIII* [illegible]

[illegible] Permature

173 *Emilia* [illegible] lips and cheeks
[illegible]
[illegible] *Winter's Tale* [illegible]

174 *Robert* [illegible] come into the [illegible]
[illegible] cocks before the [illegible]

[illegible] Maternal Devotion

175 *Tiranio* [illegible] then rich with [illegible]
But [illegible] portal of that holy [illegible]
Ib.

176 *1st Gentleman* [illegible] with [illegible]
[illegible] entertainment [illegible]
[illegible] *Cymbeline* [illegible]

Blister

177 *Hamlet* [illegible] kiss off the rose
From the [illegible] blood of an innocent love
And sets a blister there. *Hamlet* III. 1

178 *Malcolm* This tyrant, whose sole name blisters our tongues [illegible]

179 *Timon* [illegible] shall be hanged
For each [illegible] blister [illegible]
Be as a cauterising, to the root o' the [illegible]
Consuming it with speaking.—*Timon of Athens* [illegible]

180 *King* A blister on his sweet tongue.—*Love's Labour's Lost* [illegible]

181 *Pandulph* If I prove honey-mouthed, let my tongue blister [illegible]

182 *Mercutio* O, her lips, those straight or kisses, [illegible]
Which off the impt Mab with blisters plain
Because their breaths with sweetmeats tainted are.
Romeo and Juliet [illegible]

183 *Nurse* Ah, where's my man? give me some aqua vitæ:
These griefs, these woes, these sorrows make me old.
Shame come to Romeo!
Juliet Blister'd be thy tongue
For such a wish!—*Romeo and Juliet* III. 5

In modern folk-lore blisters [illegible]
[illegible] formerly they were [illegible]
If blisters are raised [illegible]
They are many little grains [illegible]
Grainger's Compendium Medicinæ [illegible]

Blood

Blood was thought to be formed in the liver, which organ was therefore the seat of vigour and physical courage. White liver, therefore due to lack of blood, was an indication of pusillanimity.

184 *Othello* My blood begins my [illegible]
And passion having my best judgment collied
Assays to lead the way [illegible]

185 *Othello* [illegible]
Nor scar that whiter than [illegible]
As snow th is run [illegible] 2

186 *Olivia's Letter* [illegible] Lais spirit [illegible]
and spirit [illegible]

187 *Brutus* And in the spirit of men there is no blood
O that we then could come [illegible]
And let us swim [illegible]
Caesar must bleed for it [illegible]

188 *Julius* The noble spirit [illegible] *Julius Caesar* iii 3

189 *Cassius* When grief and blood ill tempered vex it so [illegible] *Julius Caesar* iii 3

190 *Titinius* As in their red rays thy [illegible]
So in his red blood Cassius day is set [illegible] *Julius Caesar* v 3

191 *King* His blood is not more [illegible]
The brand more instrument [illegible]
Than is the throne of Denmark [illegible] *Hamlet* i 2

192 *Steward* I blushed and I fell for him [illegible] 2

193 *1st Citizen* Whose [illegible] found in his [illegible] which *King John* iv 1

194 *2nd Citizen* For the [illegible] *Winter's Tale* iv 2

195 *Lucius* [illegible] hand will serve the [illegible]
My soul [illegible]
[illegible] to the surgeon [illegible]
penalty awarded [illegible]
A similar punishment [illegible] *Cymbeline* iv 4 [illegible]
If the doctor shall [illegible]
[illegible]
[illegible]

196 *Lord Ipl* [illegible]

197 [illegible]
Wanting the spirits [illegible]
Showed life [illegible] *Hamlet*

198 [illegible]
Beggar [illegible] *Sonnet* 67

199 [illegible]
[illegible]

200 [illegible]

Blood Circulation

201 [illegible]
Stopping [illegible]

202 [illegible]
With [illegible] *Hamlet* [illegible]

[illegible]

[illegible]

205 *P[illegible]*

206 *C[illegible]*

[illegible]

As with alchemy so with the [illegible] a clear idea of what the Elizabe[illegible] of blood merely ebbing and flowing [illegible] being cooled in the lungs [illegible] terms used Harvey himself [illegible] these parts this blood is [illegible] returns to its source the heart [illegible] virtue Here it regains its natural [illegible] filled with spirits is distributed [illegible] heat of the heart

Galen had disproved the [illegible] an opinion which presumably [illegible] of arteries during dissection and Harvey [illegible] that it was still current

The meaning of the kinship [illegible] the quotations seem to imply [illegible] Shakespeare died a week after [illegible] in England

207 *King Philip* We will bear [illegible]
Which [illegible]

208 *Angelo* Why does my [illegible]
Making [illegible]
And [illegible]
Or [illegible]

209 *Duke* [illegible]
Stand [illegible]
That his [illegible]

[illegible]

210 *D[illegible]* Pray you [illegible]

211 *Lucio* [illegible]
Is very [illegible]
The [illegible]
But doth [illegible]
With [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] Judicious [illegible]
Those pelican [illegible]

[illegible] That blood already [illegible]
Hast thou tapp'd [illegible]

[illegible]

[illegible]

[illegible] TRANSFUSION OF

Transfusion of blood was unknown in Elizabethan times. A Christ Doctor Richard Lower (1631–1691) is accredited with having carried out the first blood transfusion but without success possibly due to ignorance of blood groups. Pepys's Diary gives the following account of experiments in transfusion.

November 14th 1666. Dr. Croone told me that at the meeting at Gresham College to night (which it seems they have now every Wednesday again) there was a pretty experiment of the blood of one dog let out (till he died) into the body of another one on one side while all his own run out on the other side. The first died upon the place and the other very well and likely to do well. This did give occasion to many pretty wishes as of the blood of a Quaker to be let into an Archbishop and such like but as Dr. Croone says may if it takes be of mighty use to health for the mending of bad blood by borrowing from a better body.

November 21st 1667. With Creed to a Tavern where Dean Wilkins and others and a good discourse among the rest of a man that is a little frantic (that hath been a kind of Minister Dr. Wilkins saying that he hath read for him in his Church) that is poor and a debauched man that the College have hired for 20s. to have some of the blood of a sheep let into his body and it is to be done on Saturday next. They purpose to let in about twelve ounces which they compute is what will be let in in a minute's time by a watch. On this occasion Dr. Whistler told a pretty story related by Muffet a good author of Dr. Cayus that built Caius College that being very old and living only at the time upon woman's milk he while he fed upon the milk of an angry fretful woman was so himself and then advised to take it of a good natured patient woman he did become so beyond the common temper of his age.

November 30th 1667. I was pleased to see the person who had his blood taken out. He speaks well and did this day give the Society a relation thereof in Latin saying that he finds himself much better since and as a new man but he is cracked a little in his head though he speaks very reasonably and very well. He had but 20s. for his suffering it and is to have the same tried upon him again the first sound man that ever had it tried on him in England, and but one that we hear of in France.

The quotation given refers to the story told by Ovid of Medea who gathered herbs by night in accordance with the belief that magical influences were at their maximum potency at that time. She then made an infusion of the herbs and having first withdrawn some blood from the veins of Jason's aged father replaced it by this magical infusion with the object of restoring his youth.

223 *Jessica*. In such a night
Medea gather'd the enchanted herbs
That did renew old Aeson.—*Merchant of Venice* [illegible]

Blood Well [illegible]

[illegible] from one sign of [illegible]
[illegible] Alas I would [illegible]
[illegible] heard we [illegible]
[illegible] lancy [illegible]
[illegible]

Blood [illegible]

Blood [illegible] was [illegible] used by [illegible] the [illegible] play [illegible] advised [illegible] is [illegible] The Marrow [illegible] which [illegible] settles [illegible] of a [illegible] being treated [illegible] The case was [illegible] which decided [illegible] and did so will [illegible]

229 *Archbishop* [illegible] Blood [illegible]

230 *Rosaline* [illegible]
Marrow [illegible]
[illegible]
[illegible]
[illegible]

[illegible] *Rosaline* [illegible] which [illegible]

[illegible] *Rosaline* [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
complexion

229 *Archbishop* [illegible]
And with [illegible]
Have [illegible]
And [illegible]
Our [illegible]
(Exeunt [illegible] all the [illegible]
some part of [illegible]

230 *Rosaline* Is the fool sad
Biron Sick of heart
Rosaline Alack let it [illegible]
Biron Would [illegible]
Rosaline My physic says [illegible]

231 [illegible]

232 [illegible]

233 [illegible]

234 [illegible]

235 [illegible]

[illegible] much [illegible] they dyed [illegible] pain in the [illegible] afternoon [illegible] and was let blood which presently after [illegible] him found his pulse very bad but noe other ill signe but running [illegible] bring him a cordiall which was but a little way from my house [illegible] dead before it came to him '—Boghurst's Loimologia 1666

Bloodstains

It was the custom to dip handkerchiefs in the blood of martyrs to be preserved as relics

236 *Decius* from you great Rome shall sucke
Reeking blood and that great men shall press
For tinctures stains relics and cognizances —*Julius Caesar* II 2

237 *Antony* And dip their napkins in his sacred blood
Yea beg a hair of him for memory
And dying mention it within their wills
Bequeathing it as a rich legacy
Unto their issue —*Julius Caesar* III 2

Blushing

238 When shame assaild the red should fence the white —*Lucrece* 63

239 This silent war of lilies and of roses —*Lucrece* 71

240 *Petruchio* Swift war of white and red within her cheeks —*Taming of the Shrew* IV 6

Bodies

241 *Iago* — Our bodies are our gardens, to the which our wills are gardeners: so that if we with wortes or weeds, or sweet herbs, or distract it with many, either to have it sterile with idleness, or manured with industry, why the power and corrigible authority of this lies in our wills. —*Othello* i. 3.

Bodies, Lying in State in

242 *Horatio* — Let order that these bodies
High on a stage be placed to the view;
Fortinbras — Let four captains
Bear Hamlet, like a soldier, to the stage; —*Hamlet* v. 2.

243 *Brutus* — Prepare the body, then, and follow it. —*Julius Cæsar* iii. 1.

Bodies Putrefaction of

244 *Hamlet* — But, mother, if you find him not within this month, you shall nose him as you go up the stairs into the lobby. —*Hamlet* iv. 3.

245 *Hamlet*
Clown — How long will a man lie i' the earth ere he rot?
I faith, if he be not rotten before he die—as we have many pocky corses now-a-days that will scarce hold the laying in—he will last you some eight year or nine year: a tanner will last you nine year. ... his hide is as tanned with his trade, that he will keep out water a great while, and your water is a sore decayer of your whoreson dead body.
Here's a skull now: this skull has lain in the earth three and twenty years. —*Hamlet* v. 1.

246 *Mortimer* — these fields where wretches their poor bodies
Must lie and fester
King — Dying like men
The smell whereof shall breed a plague in France. —*Henry V.* iv. 3.

[illegible] the night to [illegible] the [illegible] corruption from corpses [illegible] Puttick says in Henry VI. Part 1.
[illegible] sake, let him have me to keep them here; they smell but stink [illegible] the air.)

Brain

247 *Iago* — My invention
[illegible] fruitfulness of his brain, does let it brace
It pricks and stings my all, but my Muse labours
And thus she is delivered. —*Othello* iii. 1.

248 *Cassio* — I have very poor and unhappy brains for drinking.
I could well wish courtesy would invent some other custom of entertainment. —*Othello* ii. 3.

249 *Iago* — Ancient, there's sulphur shown in not light of brain! —*Othello* iv. 1.

250 *Clown* — Lady, a cardinal now lies upon a cushion, that is, a cushion [illegible] a cardinal. —*Twelfth Night* i. 5.

251 *Clown* — Thou shalt find, Jove, in the end, brains, for he comes to sit by his [illegible] speak put in your. —*Twelfth Night* i. 5.

252 *Hamlet* — And let heaven and men witness, I will act in this dull and heavy-gait
Hence, not the trial of policy, is sure
As infallible as fate, and I have a method
The very crown of Hamlet's lunacy. —*Hamlet* iv. 2.

[illegible]

251 [illegible]

255 [illegible]

256 [illegible]

257 *Act* [illegible]

258 *Hol* [illegible]

259 *The* [illegible]

260 *Porta* [illegible]

261 *Thers* [illegible]

262 *Thers* [illegible]

263 *Ja qu* [illegible]

[illegible]

BREAS [illegible]

264 *Act* *Macbeth* [illegible]

How ter [illegible] makes my
I would while it was [illegible]
[illegible]
And dash the [illegible]
As you have done [illegible]

265 *Lig* [illegible]

266 *Hi* [illegible]

[illegible]

[illegible]

[illegible]

Breast (Metaphorical)

[illegible] lest thy breast stripped
[illegible] lently upraided
[illegible] days — *O* [illegible]

[illegible] [illegible] *Tempest* [illegible]

Breath

[illegible] [illegible] the [illegible]
[illegible] [illegible] [illegible]

[illegible] [illegible]

[illegible] [illegible]

[illegible] [illegible]

[illegible]

276 *Spell* [illegible]

Ia [illegible]

[illegible]

277 *Ha* [illegible]

Breech Presentation

[illegible] the world with [illegible] [illegible]

Brow

[illegible] street and parse th [illegible]

[illegible] [illegible] [illegible] [illegible] my brows — [illegible]

BRUISE

281 [illegible] by and scarcely [illegible]

BURIAL

282 [illegible] his obscure [illegible]
[illegible] hatchment [illegible]
[illegible]

283 [illegible]
[illegible]
[illegible]

284 [illegible]
[illegible]
[illegible]
[illegible]

[illegible]
[illegible]
[illegible]

[illegible] 1743 [illegible] Temple [illegible]

The [illegible] only [illegible] 1883 [illegible] as a result [illegible] by a [illegible] the [illegible] battle field [illegible]

During the [illegible] The [illegible] cavalry which [illegible]

[illegible]

285 *1st Clown* Is she to be buried in Christian burial that wilfully seeks her own salvation

2nd Clown The crowner hath sat on her, and finds it Christian burial

1st Clown How can that be, unless she drowned herself in her own defence

2nd Clown But is this law?

1st Clown Ay, marry, is't; crowner's quest law

2nd Clown If this had been a gentlewoman she would have been buried out of Christian burial —*Hamlet* v 1

(The suggestion that Ophelia might have drowned herself in her own defence and the statement that the law was able to [illegible] her social status recall a famous case commented on at length in Lord Campbell's "Shakespeare's Legal Acquirements" (1859). A Sir James Hales, a puisne Judge of the Common Pleas, [illegible] plot to place Lady Jane Grey on the throne [illegible] and pardoned. He then committed suicide by walking into a river [illegible] [illegible] [illegible] [illegible] [illegible] there was no cause for forfeiture.")

286 *Hamlet* What is that they follow?
And with such maimed rites? This doth betoken
The corse they follow did with desperate hand
Fordo its own life: 'twas of some estate.

First Priest Her obsequies have been as far enlarged
As we have warranty: her death was doubtful,
And, but that great command o'ersways the order,
She should in ground unsanctified have lodged
Till the last trumpet; for charitable prayers,
Shards, flints and pebbles should be thrown on her;
Yet here she is allowed her virgin crants,
Her maiden strewments and the bringing home
Of bell and burial.

No more be done:
We should profane the service of the dead
To sing a requiem and such rest to her
As to peace-parted souls —*Hamlet* v 1

(Crants—an old word for garlands.)

287 *Shepherd* Some hangman must put on my shroud and lay me
Where no priest shovels in dust —*Winter's Tale* iv 3

288 *Puck* And yonder shines Aurora's harbinger;
At whose approach, ghosts, wandering here and there,
Troop home to churchyards: damned spirits all,
That in crossways and floods have burial,
Already to their wormy beds are gone

Midsummer Night's Dream iii 2

(Suicides, as in the case of Sir James Hales, [illegible] [illegible]. The accidentally drowned, although not [illegible], were said to wander in spirit form where they lacked proper burial [illegible] before they [illegible].)

BURIAL PREMATURE

289 *[illegible]* How [illegible] when I am laid in the tomb
I wake before the hour of Rome's
Come to redeem me, for there's a fearful doom
Shall I not then be stifled in the [illegible]
To those half mouldered [illegible]
And die there strangled in my [illegible]
Or if I live is it not terrible
The horrible contention of the [illegible]
Together with the corpse I have [illegible]
As in a vault, till [illegible]
Where for these [illegible]
Of all my buried ancestors [illegible]
Where the [illegible]
Lies festering, his hand [illegible]
At some hours in the night [illegible]
Alack, alack is it not like that I
So early shall I [illegible]
And shrieks like mandrakes [illegible]
That living mortals hearing them run mad
Or if I wake, shall I not be tormented
Environed with all these horrible [illegible]
And mingled with the mouldering dead,
And hide the mangled limbs of the [illegible]
And in this rage with stamping [illegible]
As with a bell, [illegible]

290 *1st Satyr* [illegible]
The [illegible] high [illegible]
Let fall the [illegible]
Pericles That is a [illegible] tuition
1st Satyr I [illegible] sir
With us at [illegible]
And we are [illegible]
2nd Satyr Sir we have [illegible]
Beneath the [illegible]

(The bibliography and index will appear in the [illegible] Shakespeare.)

(*To be continued.*)

Clinical Notes and Cases

THE KNEE-JOINT

By

Surgeon Commander R. M. LATTA, R.N.

In the Services injuries of one kind and another are common and by virtue of its construction and location the knee joint probably receives more than its fair share. Most of them resolve without any assistance helpful or otherwise but some present problems in management. The majority of standard textbooks give details of treatment for major injuries but lesser injuries are scarcely mentioned. Often too the early or immediate treatment of the more serious injuries may be omitted presumably on the assumption that the patient will be sent to hospital but this is not much help to a medical officer in a small ship at sea. An attempt is made in this paper to cover some of this undisclosed ground.

It should be mentioned that perhaps the details of anatomy given might be unacceptable to the anatomical purist and that not every orthopaedist would accept the statements made. At the same time the anatomical picture presented has been found a useful working one and the points of diagnosis and treatment to be reasonably effective.

In the upright position the femur is poised on top of the tibia there is no stability from a bony point of view as there is to a considerable extent for instance in the hip joint. Stability is supplied in the first place by ligaments of which there are four important ones—two collateral (medical and lateral) and two cruciates (anterior and posterior). There are other ligaments in relation to the joint especially posteriorly which are formed by localized thickenings of the joint capsule but normally these have a small role in maintaining stability. The collateral ligaments supply lateral the cruciates antero-posterior stability.

Ligaments however have little or no elasticity and only provide what might be called passive stability. If a strain is put on a ligament there is only minutes and giving and if the force continues it will cause rupture of the ligament or avulsion of one or other end from its bony attachment. In a joint such as the knee which is subject to numerous strains such a set up would be disastrous if there was no additional protective mechanism. This mechanism is supplied by the muscle groups controlling the joint. The normal tone of these groups should be in itself able to maintain the joint at rest so that no strain comes on the ligaments and in moments of crisis there should be a reflex contraction of muscle groups so fast that they are braced to take the strain

before its effect can come on the ligaments. Because [illegible] the force can be received, absorbed in part or in full, [illegible] neutralized.

Anteriorly the tension of the quadriceps group [illegible] end of the tibia. The ligamentum patellæ, in spite of its [illegible] the continuation of the tendon, and the patella is a sesamoid [illegible] tension. Posteriorly there is the hamstring group; laterally the fascia [illegible] kept under tension by the tensor fasciæ latæ. Medially there is less direct support, the most important resistance being given by vastus medialis, [illegible] the antero-medial part of the joint line, and by semitendinosus and semimembranosus posteriorly. Possibly, because of the absence of direct muscular support, the medial collateral ligament is stronger and has a larger area of bony attachment than the lateral. It is also noteworthy that injuries to the medial side of the joint are commoner.

Although in this description the various muscle groups have been isolated, it must not be thought that they work in isolated groups. Their contractions are wonderfully balanced to produce a maximum resistance to any given strain, while over-correction is prevented by the action of the antagonists or opposing muscle groups.

Complicating the mechanism of the knee joint are the two menisci—medial and lateral. These are attached and thus moves backwards in the capsule of the joint during the movements of the joint. The main point of difference between the two is that the tendon of popliteus muscle runs between the external collateral ligament and the joint capsule, so that there is no direct connexion between the lateral cartilage and ligament, while on the medial side there is no such separation, and the medial meniscus being attached to the capsule, is also attached to the ligament.

The knee joint is a hinge joint, and the horizontal axis of movement runs through the femoral condyles, about the joint. Fold-in of the cruciate ligaments in the intercondylar notch of the femur. There is an addition to extra movement in the vertical plane. This happens towards the completion of extension when there is a short medial rotation of the tibia in relation to the femur (or medial rotation of the femur on the tibia) before full extension is achieved. This is described as the screwing home movement, and it is produced by tetanic contraction of the vastus medialis section of the quadriceps group. In full extension the joint is stable. No passive movement of tibia on femur can be produced because in this position all ligaments are taut.

To start flexion of the joint from the position of full extension there must first be an unscrewing movement—medial rotation of the tibia relative to the femur—and this is initiated by popliteus muscle. It can be demonstrated on any knee that no degree of flexion allows some slight lateral or medial ligaments, different knees allow a different degree of play. It is probable that actually from that the cruciate ligaments are taut all through the range of movement of the knee, since they are in effect like a circle. In practice however, it is often possible to demonstrate a slight degree of play in

the normal [illegible]

There is no [illegible] injured but [illegible] Natural [illegible] the minimum [illegible] hard irregular [illegible] but its popularity and universality are also factors The importance of the part played by muscles in preventing ligament strain and the necessity for a split second protective reflex has already been pointed out A proportion of injuries sustained at football are not so much due to the game itself as to the fact that the players are not in training There is no doubt that training increases muscle power and stamina and quickens the protective reflex and if all players were really fit an appreciable number of injuries would never happen The number of knee injuries seen at the beginning of the football season is usually higher than when the season is under way It is not however easy for players to keep fit in a sea going ship and a certain amount of beneficial and apparently enjoyable exercise is obtained by kicking a ball about on a spare piece of ground or by making one in a scratch team and it is not intended here to suggest that anyone playing football should be in possession of a recent certificate of fitness But the fact remains that if it were possible to have all football players physically fit there would be fewer cases of injury to the knee and this applies equally to anyone taking part in any sport or game in which knee injuries may be sustained

On examination of a patient with a damaged knee the taking of a detailed history is of first importance for with a good history it is often possible to make an accurate though tentative diagnosis without examining the joint For example a direct kick is not likely to cause cartilage damage A player who is able after the injury to get up and continue with the game is unlikely to have a fracture or a complete tear of a ligament (though a partial tear may allow this) If the history is of a twisting fall then cartilage damage can be suspected and confirmed if there is locking (that is inability to extend the leg more than 20 degrees from full extension Smaller limitations are less reliable in deciding on cartilage trouble) If the knee was fully extended at the time of injury bony or ligamentous damage is much more probable than cartilage

Detailed examination of the recently injured knee can be quite difficult Usually there is an effusion into the joint which produces a varying degree of tenseness of the capsule Automatically the knee adopts the resting position—about 20 degrees from full extension and muscle spasm or tension holds it there The patient is unable or unwilling to straighten his knee and it is difficult to decide which Further information can be obtained from the localization of the point or points of tenderness In spite of the effusion the joint [illegible] compared with the one on the opposite knee Maximum tenderness over the line of collateral ligament can be detected and if this [illegible] clear at below the joint line then the damage is probably ligamentous If the tenderness is over the ligament at the level of the joint line the damage

[illegible] cartilage but on the medial [illegible] it might be to both [illegible] the ligament at joint line [illegible] in the absence of [illegible] damage Injuries in which the knee is [illegible] though painful on the other hand impacted fractures may give little pain

It is usually possible to get [illegible] patient some forty eight hours later If the initial treatment has been adequate some of the pain will have subsided the muscles will have relaxed to a certain extent and a fuller examination is possible An effusion in the joint may prevent completely full extension but it will only be a matter of a few degrees which a locked knee will usually show a greater loss of extension Ligaments are tested by putting them on the stretch passively and comparing the results with the sound knee The localization of painful spots is more easy and reliable

X ray is a valuable adjunct to clinical examination but not an essential one in the first few days If it can be done it is wise to take comparable pictures of the uninjured joint

In the early treatment of knee injuries rest is an important factor Ideally all knees showing an effusion should be treated in bed until it has gone but sick bay accommodation does not always allow this Effusions resulting from minor damage or in patients who were able to continue with their work or game without too much discomfort usually do not require treatment in bed but patients who have a large effusion or who have difficulty in walking in anything like a normal fashion should be put to bed Persistent effusions in cases attending as out patients should also be treated in bed

If the injury has been severe the knee will usually require support in semi flexion for the first forty eight hours at any rate This can be done adequately with pillows but care must be taken to make certain that the thigh and leg are also properly supported If this is not done there is liable to be uncomfortable pressure on the heel

A second important point in treatment is splinting This can most usefully be done with a Robert Jones bandage in which a layer of cotton wool is bandaged firmly round the lower thigh knee and upper leg A second layer is bandaged over this and sometimes a third over the second In most cases this gives a very adequate degree of immobilization it supports the joint and allows the muscles to relax Two points are worth mentioning—firstly the bandage loses its efficiency if it is applied only round the knee secondly it should not be so tight that it produces œdema of the foot and ankle Patients who are not eased by this method have probably got a haemarthrosis with or without a fracture

With regard to knees which have locked it is a little difficult to be dogmatic about treatment Theoretically of course they should be unlocked so that exercises can be started but quite often this is extremely difficult Where there is a bucket handle tear and the handle is displaced into the centre of the joint mere skill in manipulation is not always enough and sometimes a reduction really consists in lengthening the longitudinal tear till the handle is attached only to the horns of the cartilage and does not really

[illegible] Occasionally [illegible] to effect a reduction [illegible] this [illegible] cartilage which is [illegible] but recent [illegible] usually require an anesthetic [illegible] manipulation [illegible] The technique basically is to flex the joint then straighten it with the bone surfaces separated on the affected side If there is to be a delay of several days before the patient can be sent to hospital then probably this manœuvre is worth trying if the delay is [illegible] shorter than that the medical officer's conscience should be his guide

Although the emphasis for the first forty eight hours has been on rest quadriceps drill must not be forgotten The rate at which wasting of the quadriceps group of muscles and especially vastus medialis occurs after any knee injury has to be seen to be believed It has been pointed out that muscle is the first means of establishing stability of the knee joint and that the only really stable position of the joint is in full extension when the screwing home action has been effected by vastus medialis It must therefore be obvious that until muscle power and bulk are restored the knee is potentially unstable Bulk is important as well as power for it gives an indication of the stamina of the muscle It is therefore most important to have the patient doing quadriceps exercises from the earliest possible moment At first the efforts may only produce rather feeble muscular twitchings in the upper part of the thigh but even that is better than nothing for although it will not help to build up muscle power it does show that the patient has not forgotten how to contract his muscles If there is a delay in starting exercises it is possible to lose completely the power of contraction or the memory of how to do it and it is a long and tedious business recovering these

The aim of these exercises is to produce the maximum possible contraction of the whole quadriceps group to hold this contraction for the space of 5 seconds and then to relax completely before starting the cycle again A maximum contraction can only be achieved by fully extending the leg It can be demonstrated quite simply on any normal knee that even if the knee is no more than 2 or 3 degrees short of full extension vastus medialis is not working efficiently and it is this muscle which it is so difficult to build up And it is essential that it is redeveloped For the same reason leg raising exercises are a complete waste of time unless the leg is absolutely straight on each occasion The Watson Jones standard of exercise for five minutes every hour the patient is awake should be adhered to and as the power returns they should be done more frequently than this

It is likely that during the first few days when the knee is painful it may be difficult to obtain an effective contraction of vastus medialis Nevertheless the exercises must be continued conscientiously and as the discomfort subsides the patient should be encouraged to attain full extension Certain conditions will prevent this A bucket handle tear of a cartilage with a locked knee is one and this state of affairs justifies early discharge to hospital for operation

Static exercises are continued until the patient has shown that he

[illegible] The [illegible] there is the [illegible] the medical officer must [illegible] during the [illegible] during two years at the R.N. Orthopædic [illegible] for doing quadriceps drill [illegible] is effusion [illegible] described which is admirably [illegible] It is because of this dullness that such emphasis has been [illegible] With injuries of a less serious nature the need for [illegible] will present but it will probably be possible to start with [illegible] using weights.

One other form of [illegible] considered in a acute knee injury is aspiration of the [illegible] There is [illegible] a potential danger of introducing infection but the [illegible] of the skin is properly shaved and cleaned if the needle [illegible] properly sterilized and the needles held only by the hub [illegible] The technique is simple. After skin preparation [illegible] anæsthetic is injected under the skin at the selected spot [illegible] a medium size needle is inserted into the supra patellar bursa [illegible] using a strong syringe. It is probable insert [illegible] intracapsular aspect of the bursa just above the upper [illegible] When [illegible] is completed the puncture is sealed off with collodion [illegible] applied.

Aspiration is only indicated in advised [illegible] for cases. A very tense painful effusion should be aspirated [illegible] usually be found to be more or less heavily blood stained. Effusions which [illegible] soft and obviously fluctuant can in most cases be left alone unless there is going to be a delay of four or five days before the patient can be discharged to hospital. The deciding factor in these cases is whether the tense [illegible] the effusion is seriously interfering with the efficiency of the quadriceps [illegible]

With lesser degrees of injury to the joint treatment is basically along the same lines. Rest from weight bearing is desirable [illegible] but is not an absolute essential. The use of a pressure bandage is probably not necessary. The function of this bandage is chiefly is a splint in the early stage and possibly by its pressure it limits further effusion into the joint. It cannot assist in the absorption of an effusion already present. It may even give a sense of false security in that because of comfortable pressure around the joint the knee feels safe and stable and this in turn may lead to the neglect of the all-important exercises. A moment's consideration will show that if a bandage is going to be support enough to stand up to the twists and strains to which a knee can be subject it would have to be a pretty considerable bandage and would have to extend to the upper thigh in addition to the calf. There could be little difference between this bandage and a plaster cast. An ordinary crepe bandage or the elastic support often worn by games players cannot be strong enough to give the support to the knee which could be obtained by given by muscles. They can really serve no function except to give a feeling of confidence and perhaps to protect the skin in a fall. The key to stability of the knee lies in first class muscle power and until that is established the injured knee should be regarded as one which is potentially unstable.

A CASE OF CHRONIC SPHENOIDITIS

BY

Surgeon Commander R. W. TIPPLE, D.L.O., R.N.

A [illegible] aged 29 had a S.M.R. performed under local anæsthetic. [illegible] Afterwards he began to complain of headaches [illegible] The nasal mucosa was examined by a Medical Specialist, a Neurological Specialist and a Specialist Eye Surgeon, but no definite cause was found.

[illegible] first in the R.N.V.R. Depôt at Rosyth, and later in the R.N. Hospital, Elyan, Rosyth, on 8th April [illegible] In tracing his history, the headaches were quite obviously genuine. He [illegible] headache was strikingly seasonally when he laden his nose [illegible] in the most approved method, and exactly that thing was a small [illegible] the right side of the upper sinus spot. The lateral sinuses were normal.

[illegible] nasal sinuses showed opaque sphenoid sinuses on one side. Both [illegible]

[illegible] examined on 1st July, 1935 [illegible] the sinus [illegible] *Staphylococcus aureus* and a small gram [illegible] [illegible] Although this time the headache [illegible]

[illegible] April, 1935 [illegible] sinuses, the left and right [illegible] Must in the [illegible] resistance the [illegible] [illegible] Large [illegible] the right [illegible]

[illegible]

A CASE OF TOOTH-BRUSH ABRASION

BY

Surgeon Commander (D) W. L. N. FORREST, R.N.

This case well illustrates the ill effects that can result from over vigorous tooth brushing. The teeth shown in the photograph were removed from a man aged 40 years whose mouth was very healthy.

His sought attention because his left central incisor was loosened after cutting some bread. The tooth had fractured through the area weakened by brushing, and the crown of the tooth was held in place by the periodontal attachments palatally (fig. 1). A similar thing had happened to his right lateral a little while previously, and he had pulled the crown away.

As it was quite apparent that this was going to happen to all his front teeth in turn, there was no alternative to removing them and replacing them with a denture.

A similar structure of dentures prevented in the lower jaw, but it is hoped that the teeth would last several more years if used thus, given a little less zeal with the tooth brush.

This is a case of accidental destruction due to over vigorous tooth brushing. But for this the man would have retained his teeth for many years more. He had not used anything more than ordinary tooth brushes and ordinary tooth pastes. This is a striking and

[illegible]

At school we were always [illegible] scrub hard. Fortunately most boys [illegible] lazy, so that that unsound advice was naturally counteracted. The fact [illegible] teeth are brushed regularly they do not require scrubbing with hard [illegible]. The object of tooth brushing is

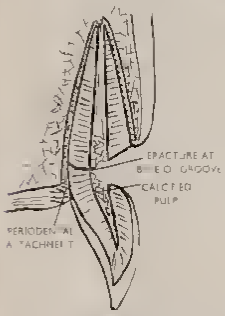

Fig. 1

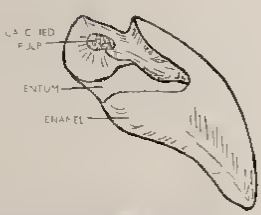

Fig. 2

[illegible]

[illegible] the teeth [illegible] all the surfaces of all the teeth [illegible] teeth and in force.

It is quite apparent that although more and more people use more and more tooth brushes and tooth paste there is not a [illegible] less dental decay. It is a pity to turn the tooth brush itself into an instrument of dental destruction by its over zealous use. Tooth brushing is the most important item of daily toilet. But it can do mischief. The most effective measure against dental decay is its early detection and treatment. A frequent and regular examination of the teeth.

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A CASE OF DENTIGEROUS CYST

BY

Surgeon Commander R. W. TIPPLE, D.L.O., R.N.

AND

Surgeon Commander (D) W. HOLGATE, *O.B.E.*, L.D.S., R.N.

A boy aged 18 years had 7 | extracted in April 1952 and subsequently a discharge from the socket persisted. A skiagram showed a tooth (probably 8 | which was missing) in the right antrum and a diagnosis of antral fistula was made. He was referred to the Dental Department of R.N. Hospital Haslar on 3rd June 1952 for surgery in the E.N.T. Department. There was a foul discharge from the fistula. Hypertrophic nasal lining was noted. A provisional diagnosis of dentigerous cyst was made. On 11th June 1952 the right antrum was opened through the canine fossa. There was a large swelling, protruding from the floor of the orbit, the lateral wall of the antrum. A probe passed through the fistula into the antrum. A tooth was found in the mass which was dislodged and the opening, which was the fistula, was packed with iodoform gauze for the night.

A course of penicillin and sulphafurazole was given. The antrum cavity was cleared and packed with iodoform gauze. The patient was discharged on 10th August 1952. There was a small antral fistula still remaining. The patient has been seen. Difficulty in the left maxillary sinus healthy. [illegible]

ROYAL NAVAL MEDICAL SCHOOL

The following lectures were given during the period January–July 1952.

[illegible] 1952	Worship Constitution as affected by habit liability and MSCD requirements — Mr. [illegible] A.M.N.V.R.I.N.C.
20th March 1952	The Medical Officer and Staff College Trained — Surgeon Commander W. J. Lodge, C.B.E., M.D., F.R.C.S., R.N.
1st May 1952	Survival at Sea — Surgeon Commander J. W. L. Cranfield, M.D., R.N. (Naval Medical Secretary, E.N.T.R.C.)
1st July 1952	Treatment of Burns — Mr. T. W. Davidson, *O.B.E.*, F.R.C.S. (Consultant Surgeon, R.N. Hospital Haslar)

Four seminars in Dental Hints were organized by the Director of Dental Studies (Surgeon Captain (D) W. L. L. Brighton, L.D.S., R.N.) on the 4th June and 10th July 1952.

A symposium of the medical and physiological problems of underwater warfare was held during the week of 12th May 1962—a total of 18 took part in some or all of the sessions. In addition to lectures and discussions at the R.N. Medical School visits were made to H.M.S. *Dolphin*, H.M.S. *Tarantula* (Diving School) and the Royal Marine Amphibious School, Poole. Among the lecturers were:

Mr. A. H. Bobb, R.N. Physiological Laboratory.

Professor W. Barns, Charing Cross Hospital, London.

Surgeon Lt. Cdr. W. F. Crocker, R.N. Medical School and R.N. Physiological Laboratory.

Surgeon Cdr. J. W. L. Crosfill, R.N. Personnel Research Establishment.

Dr. K. W. Donald, University of Birmingham.

Surgeon Cdr. W. M. Davidson, H.M.S. *Dolphin*.

Surgeon Cdr. G. S. Irvine, H.M.S. *Osprey*.

Professor Esther M. Killick, Royal Free Hospital, London.

Dr. W. D. M. Paton, University College Hospital, London.

Cdr. (E) A. A. Sammerhayes, R.M.S. *Dolphin*.

Group Captain W. K. Stewart, R.A.F. Institute of Aviation Medicine.

Captain B. W. Taylor, C.S.O. to C.O.S/M.

Dr. H. J. Taylor, R.N. Physiological Laboratory.

Dr. H. C. Wright, R.N. Physiological Laboratory.

On the evening of 16th May, 1962, 33 members of the course held a Short Party at the R.N. Medical School.

It has been possible to resume giving short courses of instruction for Surgeon Lieutenants R.N. and R.N.V.R. during the year at the R.N. Hospital, Haslar.

Courses on the medical and nursing aspects of Radiological Warfare have continued to be well attended. Between October 1948 (when the courses were started) and July 1962 the total number who have attended has reached 2,812.

Dr. A. E. Martin, Ministry of Health, has lectured on Civil Defence Organization at each of the five standard courses, including officers from other fleets between January and July 1962.

The Medical Director-General (Surgeon Vice-Admiral K. A. Jenkin Mackenzie, *C.B.*, Q.H.P.) inspected the school on 20th April 1962.

The following changes in the staff of the school have occurred:

Surgeon Captain R. A. Graff, Director of Medical Research, has been appointed to the Medical Department.

Surgeon Commander C. D. Weld has been appointed to H.M.S. *Congo* and he has been relieved by Surgeon Commander I. T. Hunter from A.F.D.E. Burwell. Lieutenant A. T. Ambrose has been relieved by Lieutenant D. J. Dineen.

REMEMBERING SIDNEY BERNARD

A courageous naval surgeon who lies buried on Burntwick Island in the Medway is commemorated in the name of the launch provided for the use of the General Manager of the A.I.O.C.'s Kent Refinery. The vessel just delivered, is named the Sidney Bernard.

In September 1844 an outbreak of fever was raging on board H.M.S. *Iris*, a steam sloop which was returning to England from service with the squadron engaged in keeping down the African slave trade. In Funchal Roads the ship's surgeon died and Mr. Bernard of H.M.S. *Rolla* volunteered to take his place. On arrival at Portsmouth 24 of the *Iris's* crew were sick

[illegible] the [illegible] Nelson was anchored off the ship which was towed to the Quarantine Station at Stangate Creek beside Burntwick Island in the Medway [illegible] 2nd October. Next day 7 more [illegible] and Sidney Bernard [illegible] died of the fever. Survivors were transferred to other ships but Bernard and his assistant remained on board the *Iris* with the sick. In all 71 men died during the epidemic in the *Iris* — almost half her full complement of 146 officers and men.

Bernard died on 9th October aged 27. Though his grave lies disused in the aft moat of Burntwick Island his name will soon be familiar round the busy traffic of the Medway.

Reviews

A Handbook of Surgery. By Reginald C. B. Ladd, M.B., B.S. (Lond.), F.R.C.S. (Eng.), and Michael Barmer, M.A., M.B., B.Chir. (Camb.), F.R.C.S. (Eng.). First Edition. 1951. Pp. 535 with 56 illustrations. London: Baillière, Tindall and Cox. Price 21s. net.

This excellent little book fulfils a very [illegible] purpose. It gives a short readable and [illegible] and up to date account of surgical knowledge and treatment. Full [illegible] of the symptoms in the past three years [illegible] larger textbook

[illegible]

[illegible] good illustrations. [illegible]

[illegible] By Various Authors. Edited by [illegible]

[illegible] *Medical* [illegible] the newly [illegible]

[illegible] well produced [illegible] doctor [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] the published [illegible] the production [illegible] that the [illegible] Wolfgang [illegible] Medicine [illegible] Edinburgh [illegible]

[illegible] Statistics 1947–1949 [illegible] Statistics [illegible] Price 70s. 0d. World [illegible] now

[illegible] the official reports published [illegible] administrations supplied [illegible] of various countries [illegible] the United Nations.

[illegible] containing much [illegible] the [illegible] section [illegible] the volume indicates [illegible] population of the country [illegible] and the population of selected [illegible] according to the most recent [illegible] following section deals with [illegible] between 1946 and 1949 [illegible] first [illegible] general mortality [illegible] and neonatal mortality [illegible] comparison [illegible] the mean figures for the period 1936–8 are also shown [illegible] Section III (Causes of Death) is by far the largest in the volume [illegible] the distribution of the total death [illegible] in accordance with the [illegible] 1938 International Abridged List. These data are shown by sex for the [illegible] in a final series of tables [illegible] Other tables are devoted to [illegible] specific diseases [illegible] ethes and in selected groups [illegible] causes by age and in sex [illegible] age and sex. Section IV [illegible] rates, number of survivors and expectation of life by sex at specified ages.

Graphs showing the evolution from the beginning of the century [illegible] specified infectious diseases in some [illegible] geographical [illegible] World Health Organization and the [illegible] of WHO at [illegible] are appended. An alphabetical index [illegible] the voluminous work.

A Short Practice of Surgery. By [illegible] Bailey, [illegible] McNeill Love, M.S. Lond., [illegible] F.R.C.S., [illegible] Wall [illegible] C. D. Hermitte, M.B., [illegible] North [illegible] 1954. [illegible] Illustrations 1,234 (272 coloured). [illegible]

A Short Practice of Surgery has [illegible] book and the latest (ninth) edition will further [illegible] Every chapter has been revised and many [illegible] Intestinal Obstruction, Hernia and the [illegible] tion of lesions of the larynx, of the technique of [illegible] anastomosis and of oesophagectomy are [illegible] of many conditions such as Hodgkin's disease and [illegible] and clinical descriptions of Rh therapy [illegible] abound in [illegible] purpose [illegible] do not conform to the general high standard [illegible] An increase in the size of the book is inevitable [illegible] to good purpose. The text is free from [illegible] reads smoothly and easily. The print is clear. The illustrations are [illegible] new edition which is equally [illegible] which are [illegible]

DISEASES [illegible] SYSTEM By F M R WALSHE M D [illegible] Edition [illegible] 389 with 63 illustrations [illegible]

The [illegible] this well known book contains [illegible] on the development, [illegible] slight changes in the [illegible] contribute greatly [illegible] Dr Walshe's writing, the [illegible] the nervous system [illegible] knowledge that in fact [illegible] subject [illegible] is the best bedside teacher [illegible]

[illegible] diseases is described [illegible] of disordered [illegible] a spinal [illegible] These [illegible] are [illegible] Number [illegible] these [illegible] one is hitting [illegible] the skin and its subject [illegible] though the [illegible] for these but as the [illegible] follows [illegible] is the [illegible] and [illegible] turning is [illegible] such [illegible] is not [illegible] shall [illegible] and [illegible] pupil [illegible]

Dr Walshe [illegible] under the [illegible] with [illegible] the [illegible] of epilepsy [illegible] and [illegible] the [illegible] Norwich [illegible] and [illegible] authors [illegible] time and not [illegible] the phrases [illegible]

This book still [illegible] to the [illegible] subject [illegible] at a student price [illegible] twenty four shillings for which Messrs [illegible] the publishers [illegible] congratulated and [illegible] Osler [illegible] the whole [illegible] and must remain students [illegible]

ESSENTIALS OF SURGERY FOR DENTAL STUDENTS Edited by J Crabble Ross M B (Hons) C M Edin [illegible] F R C S Eng Second Edition 1952 Pp xvi + 296 Illustrations 167 (81 in colour) London J & A S Livingstone Ltd Price 27s 6d

The book is intelligently composed of 23 chapters contributed by Mr John Hall Dr M A Cowell Elizabeth Rees and J W Cheetham In writing this book the Editor has set out to bring before the dental student the basic principles of surgery stressing conditions likely to be encountered by him and therefore of especial importance to him Brevity has been a constant aim in order to relieve an already over burdened dental curriculum

The book is a pleasure to read and although written primarily for dental students it will offer interest and guidance to many dental surgeons in practice The chapter on Fracture of the Jaws and Face Bones is particularly good The three method solution, fixation in the treatment of fractured mandibles namely wiring, splinting, and external pinning are well set out with their respective advantages and disadvantages The reader is left to make his own choice of method guided only by the special requirements of the individual patient

The chapter on Wounds and their Treatment includes sections on chemotherapy and antibiotics which should be useful to dental students and practitioners alike although the somewhat frequent discoveries and marketing of new antibiotics must make any published work on them incomplete only too quickly

[illegible] Hospital [illegible] 166 [illegible] Baillière [illegible]

[illegible]

[illegible] 1952 Pp [illegible] Edinburgh [illegible] Livingstone [illegible]

It is seldom that [illegible] procedure but [illegible] the publication [illegible] Mr. [illegible] this particular [illegible] being paid [illegible]

Here is [illegible] post-operative [illegible] It is sound [illegible] Services where the [illegible] post-operative [illegible] in question.

The author is [illegible] this work should [illegible] concerning post [illegible] N [illegible] extremely [illegible] always essential [illegible]

Emergencies in Medic[illegible] Edition 1952 Comp[illegible] London and Edinburgh [illegible]

It is a fair measure of [illegible] is the third edition [illegible] that emergencies are always [illegible] such a misconception [illegible] looks on his old [illegible] ing general practice [illegible]

[illegible]

BOOKS RECEIVED

[illegible] Fox, Hugh [illegible] [illegible] Medical Research Series 4 [illegible] 1951.

[illegible] Medical Research Series 4 [illegible] 1951.

[illegible] Medical Research Series 51 [illegible] 1951.

[illegible] [illegible] 1951.

[illegible] Monographs Series No. 5 [illegible] First International [illegible] Medicine [illegible] 286 pages [illegible] 38 [illegible] 1951.

[illegible] Comparative [illegible] Statistics of causes of death [illegible] Table International List [illegible] 90 pages [illegible] 1951.

We acknowledge with thanks receipt of the following publications

Anales de la Facultad de Medicina Montevideo *Annales Medicinae Internae Fennia* *Annals of Tropical Medicine and Parasitology* *Army Medical Services Magazine* *Australian Journal of Experimental Biology and Medical Science* *British Medical Bulletin* *British Medical Journal* *Broadway* *Bulletin International des Services de Santé* *Bulletin of the World Health Organization* *Chronicle of the World Health Organization* *Canadian Journal of Medical Sciences* *Guy's Hospital Gazette* *Journal of the Irish Medical Association* *Journal of the Medical College* *Journal of the Royal Army Medical Corps* *Journal of the Royal Naval Scientific Service* *Kumamoto Medical Journal* *Lancashire Medical Records of Medical Sciences* *Medical Journal of Australia* *Medical Journal of Osaka University* *Medical Press* *Middlesex Hospital Journal* *Military Surgeon* *Nagoya Journal of Medical Science* *Proceedings of the Staff Meetings of the Mayo Clinic* *Revue de Medecine Navale* *Revista di Medicina Aeronautica* *St Mary's Hospital Gazette* *Journal of Experimental Medicine* *Tropical Diseases Bulletin* *United States Naval Technical Bulletin* *World Health Organization Technical Report Series* *Yonsei Medical Bulletin*

News of the Service

OBITUARY

[illegible] deaths and extend our sympathy [illegible]

[illegible] C. MUNDAY, *C.B.*, R.N. (Ret.), died [illegible] October 1867, he qualified in 1889 [illegible] Medical Officer [illegible] Surgeon to the 28th July 1891. He [illegible] 1898 [illegible] Surgeon Commander in 1904. In 1912 he [illegible] Bill of Mortality. During World War I he served in the Medical [illegible]

In March 1918 Surgeon [illegible] from Mudros, transferred to [illegible] Vice-Admiral Aux Forces, and was responsible for [illegible] of the R.A.F. Medical Service [illegible] during the War and was mentioned [illegible] C.B.E. [illegible]

[illegible] left the Royal Navy [illegible] Royal Marine Barracks, Deal, as a [illegible] and retired the rank of Surgeon [illegible]

[illegible] LAWTHORNE, R.N. (Ret.), died [illegible] 1881. He qualified in 1906 and entered the R.N. [illegible] April 1915. He was promoted Surgeon Commander in 1927, and was placed on the Retired List [illegible] June 1939. During the World War [illegible] 1917 [illegible] Edinburgh and Malta [illegible]

[illegible] LEAH, *O.B.E.*, [illegible] Virgo, 1858, [illegible] 1884. He qualified in [illegible] Surgeon Lieutenant-Commander in [illegible] World War [illegible] HMS *[illegible]* [illegible]

[illegible] the *O.B.E.* for [illegible]

[illegible] N. [illegible] the Volunteer Reserve [illegible] Virgo, 1882. He [illegible] Surgeon Lieutenant-Commander [illegible] Surgeon Commander in the Reserve [illegible] World War II he was [illegible] HMS *[illegible]*.

[illegible] A. [illegible] N. R.N. (Ret.), [illegible] Bromley, [illegible] 1891. He qualified in [illegible] Surgeon Lieutenant-Commander in 1917. He [illegible] Surgeon Commander in 1935. During World War II [illegible] HMS *[illegible]*.

[illegible] R.N. (Ret.), [illegible] Dorset, [illegible] 1881. He qualified in [illegible] Surgeon Lieutenant-Commander in 1917. He [illegible] Surgeon Commander in 1935. During World War II [illegible] HMS *[illegible]*.

[illegible] R.N. (Ret.), [illegible] Bromley, [illegible] 1891. He qualified in [illegible] Surgeon Lieutenant-Commander in 1917. He [illegible] Surgeon Commander in 1935. During World War II [illegible] HMS *[illegible]*.

[illegible] Wales, [illegible] World War II [illegible] R.N. [illegible] Chatham, [illegible] HMS [illegible] Sailing Hospital [illegible]

PROMOTIONS

[illegible] Surgeon Commander

[illegible] for J H D [illegible] 1952

[illegible] J A N [illegible] 24 9 52

[illegible] Commander

[illegible] Commander [illegible] W [illegible]

[illegible] 1 [illegible] 1 [illegible] 7 52

[illegible] (D)

[illegible] Commander [illegible]

TRANSFERS TO PERMANENT LIST

[illegible] Lieutenant Commander C R Wall [illegible]

[illegible] J Ladbrook R N [illegible] 1 8 52

ENTERED FOR SHORT SERVICE COMMISSION

[illegible] Lieutenant M R S I R I P 7 8 52 C P Hunt M B B S 21 8 52 J S [illegible]

[illegible] B 21 8 52 J M Dunnes B M B Ch 4 9 52 D Waddington M B Ch B [illegible]

[illegible] W Baugh M B B Ch 4 9 52 A Appleby M B B S 4 9 52 D [illegible]

[illegible] M B B Ch B M R C S L R C P 4 9 52 D J Godfrey M B Ch B [illegible]

[illegible] S Rawlings M B Ch B 16 10 52 J D Sutters L D S 18 9 52

[illegible] Surgeon Lieutenant J M Robinson R N V R grounded ship Surgeon Commander [illegible]

[illegible] Act Surgeon Lieutenant C N Watson R N V R grounded ship [illegible]

[illegible] 3 52 Act Surgeon Lieutenant M C Wellington R N V R [illegible]

[illegible] Commission 23 9 52

RETIREMENTS

[illegible] Dolphin 20 9 52 Surgeon Captain A W McRae [illegible] 9 52

[illegible] Walsh 11 10 52

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2462 —Medical Vaccination and Inoculation

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2645 —Casualties Deaths etc Air Trooping to Mediterranean and Canal Zone Casualty Procedure

2647 —Medical Dental and Hospital Consultants

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2825 —Victualling Stores for Dental Services (Formerly Dental Stores)

2889 —Medical Stores Field Service Valise—Revised Scale

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2928 Medical—Officers Categories to be Established by Medical Board

2959 —Medical and Dental Stores Unserviceable Medical and Dental Stores in H M Ships and Fleet Establishments Survey and Disposal

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The Directors of the Fund desire a larger membership from Medical Officers on the Active List of the Royal Navy and feel that the natural and purpose of this charity are not fully understood by those who are eligible to become Members.

The capital assets of the Fund were transferred from the Naval Supplemental Fund and a new charity formed by Order in Council in 1916 and the object of the charity is to provide funds for the widows and orphans of deceased Members who may find themselves in need of such assistance. The Directors have often received applications from deserving persons only to find that the deceased Officer had rather failed to join the Fund or having done so has allowed his subscriptions to lapse. It is interesting to note also that among the Medical Officers of the Royal Navy who gave their lives in World War II only one was a member of the Fund. The financial obligations of membership are small, the total outlay being £1 1s. 0d. per annum. A condition of benefit is that the member shall not have been in arrears with his annual subscription by more than nine months at the time of his death, and while such an investment lacks the attraction of personal benefit the advantages to be enjoyed by proxy far exceed anything offered by ordinary commercial insurance for a similar outlay.

The following few examples picked at random from the Records of the Fund serve to illustrate the usefulness of the investment:

Month	*Subscriptions paid*	*Benefits received by dependants up to 1951*
A Surgeon Lieut. Commander who died leaving a wife and two children aged 4 and 2 years	One of £1 1s. 0d.	£520
A Surgeon Commander who died leaving a widow and 4 daughters	8 of £1 1s. 0d. each	£1051
A Surgeon Commander who died leaving a widow and no son at a University	15 of £1 1s. 0d. each	£751
A Surgeon Commander who died leaving a widow and one child under 1 year	12 of £1 1s. 0d. each	£716
A Surgeon Captain who left a widow and three children	14 of £1 1s. 0d. each	£470

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The Honorary Secretary
Naval Medical Compassionate Fund
Medical Department (Admiralty)
Queen Anne's Mansions
London, S.W.1

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